

# FACT SHEET XXL Round 3 FORMULA E BUENOS AIRES

SCHAEFFLER

February 18, 2017

## Re-launch in South America

The winter break is over: Formula E is staging round three of the season in Argentina's capital



FIA  
Formula-e  
CHAMPIONSHIP

### 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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Buenos Aires, South America's bustling metropolis where the density of urban mobility is particularly high, is again playing host to Formula E as it restarts following the winter break. Twice before, the track in the Puerto Madero borough met the crowd's expectations by delivering action-packed races. As the

exclusive technology partner of Team ABT Schaeffler Audi Sport, we present to you background information about the series, the drivers, the technology and our commitment on this and the following pages.

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Racing for a reason



Down to the wire

Electrifying Team ABT Schaeffler Audi Sport

# Welcome to the *Fu* ture!

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

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 successful 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, per-

manent racetracks, but rather on 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 skyline of Kowloon 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 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** **Kicking off with a podium**  
Hong Kong China

October 9, 2016  
Lucas di Grassi made an almost perfect start to the new season with a second place finish – and this from second last on the grid. A tactical masterstroke.

**2** **Premiere in Africa**  
Marrakesh Morocco

November 12, 2016  
Positions five and six at the African premiere of Formula E after a strong fight-back from Lucas di Grassi and a spotless race from Daniel Abt.

**3** **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 ...

**4** **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.

**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.



**6** **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.

**7** **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 ...

**8** **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.

**9 & 10** **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.

**11 & 12** **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.

## Driver Ranking

| P  | Driver                     | Team                         | Pts |
|----|----------------------------|------------------------------|-----|
| 1  | Sébastien Buemi (CH)       | Renault e.Dams               | 50  |
| 2  | Lucas di Grassi (BR)       | ABT Schaeffler Audi Sport    | 28  |
| 3  | Nicolas Prost (F)          | Renault e.Dams               | 24  |
| 4  | Felix Rosenqvist (S)       | Mahindra Racing              | 19  |
| 5  | Sam Bird (GB)              | DS Virgin Racing             | 18  |
| 6  | Nick Heidfeld (D)          | Mahindra Racing              | 17  |
| 7  | António Félix da Costa (P) | MS Amlin Andretti            | 10  |
| 8  | Oliver Turvey (GB)         | NextEV NIO                   | 10  |
| 9  | Robin Frijns (NL)          | MS Amlin Andretti            | 8   |
| 10 | Daniel Abt (D)             | ABT Schaeffler Audi Sport    | 8   |
| 11 | Jérôme D'Ambrosio (B)      | Faraday Future Dragon Racing | 6   |
| 12 | Jean-Éric Vergne (F)       | Techeetah                    | 4   |
| 13 | Nelson Piquet Jr. (BR)     | NextEV NIO                   | 3   |
| 14 | Maro Engel (D)             | Venturi                      | 2   |
| 15 | Stéphane Sarrazin (F)      | Venturi                      | 1   |
| 16 | José María López (RA)      | DS Virgin Racing             | 1   |
| 17 | Loïc Duval (F)             | Faraday Future Dragon Racing | 1   |
| 18 | Adam Carroll (GB)          | Panasonic Jaguar Racing      | 0   |
| 19 | Mitch Evans (AUS)          | Panasonic Jaguar Racing      | 0   |
| 20 | Ma Qing Ha (CN)            | Techeetah                    | 0   |

## Team Ranking

| P  | Team                         | Pts |
|----|------------------------------|-----|
| 1  | Renault e.Dams               | 74  |
| 2  | ABT Schaeffler Audi Sport    | 36  |
| 3  | Mahindra Racing              | 36  |
| 4  | DS Virgin Racing             | 19  |
| 5  | MS Amlin Andretti            | 18  |
| 6  | NextEV NIO                   | 13  |
| 7  | Faraday Future Dragon Racing | 7   |
| 8  | Techeetah                    | 4   |
| 9  | Venturi                      | 3   |
| 10 | Panasonic Jaguar Racing      | 0   |

## CES: Schaeffler and Formula E in Vegas

Las Vegas USA

January 7, 2017  
A successful premiere of a virtual Formula E race in Las Vegas that received worldwide attention: In the simulator race supported by Schaeffler, the Formula E campaigners were pitted against the ten best fans. Daniel Abt finished in ninth place.





Centerpiece Located in the heart of Buenos Aires is Avenida 9 de Julio, one of the main traffic arteries of Argentina's capital

# Moving forward

Argentina's capital Buenos Aires impresses with a flexible approach to urban mobility

# 40,000

*taxis operate in Buenos Aires – clearly more than in New York City (12,000), the place commonly presumed to have the largest fleet*

# 25 cents

*is the cost of a bus or train ticket in Buenos Aires, expressed in euros*

A population of 2.9 million does not exactly make Buenos Aires rank among the world's most populous cities. Notably, though, the "Porteños," as the citizens of Argentina's capital call themselves, live in an area of merely 202 square kilometers. Consequently, with a population density of 14,308 residents per square kilometer, Buenos Aires surpasses megacities such as São Paulo (7,400) and Mexico City (6,000).

Traffic in the "capital of tango" is typical of metropolitan areas: chaotic and noisy. Tourists are well-advised to avoid getting actively involved in it in rental cars. The city buses called "Colectivos" offer the best means of public transportation. The 150 lines operated by private companies are heavily frequented due to cheap tickets, an extensive network and scheduled all-night service. On the downside, the city suffers from considerable air and noise

pollution which is actually in stark contrast to its name – Buenos Aires – which means "good air." A public transit alternative to avoid the ubiquitous traffic jams is the "Subterráneos" subway system that was opened in 1913 and operates six lines covering a total distance of 52.3 kilometers. Graffiti and sculptures enhance the natural drabness of quite a few metro stops. Tourists should beware, though, that none of the cars are air conditioned.

## Enhancement of urban lifestyle

The risk of getting lost while trying to move around Buenos Aires has been minimized by the "BA Cómo llego" app. The navigator indicates the optimum route on a smartphone. New in the city, though relatively widespread already, are rental bike stations. However, exploring the surroundings on a bicycle takes a little courage as not every street has bike lanes. ■





# Sustainability Motorsport with a clear focus on the future

In our Tech Talk series, we provide behind-the-scenes insights into Formula E and Team ABT Schaeffler Audi Sport. In this issue, we cover sustainability as a central driver

## #How is sustainability defined?

Hans Carl von Carlowitz may be regarded as the originator of the term. According to von Carlowitz, a mining administrator, the amount of wood cut in a forest should be limited to that which the forest could naturally regenerate – a maxim he advocated as far back as in the 17th century. The verb “to sustain” means to “keep up or prolong,” so in a broader sense, the principle of sustainability ensures that a natural system is preserved for a long time. Applied to present-day political, economic and environmental activities, this translates into striving for conditions in which future generations will not be disadvantaged in fulfilling their needs compared to those living today. Based on this, there are various approaches to defining sustainability, all of which have in common that it is always focused on the present and the future and that resources should be protected – particularly those that are not renewable.<sup>1</sup>

## #How does Formula E position itself in terms of sustainability?

Formula E has set itself the goal of being a role model for sustainability and to enhance public awareness of this topic. As the world’s first fully electric racing series, it is a pioneer in motorsport. “The future of transport and mobility

is electric, autonomous and connected,” says Alejandro Agag, the CEO of FIA Formula E. “This is a revolution. Formula E is going to shape the way we are going to drive our cars in the future.” Formula E, in a manner of speaking, defines itself as a high-tech laboratory in which world-class international companies drive innovations in concert and in competition with each other in order to accelerate the development and production of clean forward-thinking technology. Formula E’s philosophy is “think global and act local.” The popularity of Formula E might help boost sales of electric vehicles by an additional 77 million in the next 25 years, according to a study by Ernst & Young.

## #What are further aims?

Formula E aims to become the world’s first CO<sub>2</sub>-neutral racing series. Even at this point, it has received multiple sustainability awards. The 2016 finale in London was certified according to ISO 20121 – the highest standard for sustainability in the events sector. The few large-scale events to have achieved this include the 2012 Olympics in London, the 2016 Olympics in Rio, the French Open tennis tournament and the 2016 UEFA European Championship in France. All races are intended to progressively become certified according to this standard. ■

<sup>1</sup> Sources: www.nachhaltigkeit.info, Wikipedia

## Sustainability in Formula E

Sustainability as the central driver and promotion of eco-conscious “mobility for tomorrow” plays a key role in the series’ philosophy and, specifically, in the formulation of its Sporting and Technical Regulations. A few examples are listed below:

### Calendar of events and logistics

The calendar of events has been designed so that race cars and equipment can be transported to the majority of the venues by truck, train or ship and only to a few of them by aircraft – a responsibility that has been assumed by logistics partner DHL.

### Races in the hearts of cities

Formula E events are held on temporary circuits set up in the hearts of major cities. Motorsport comes directly to the spectators and not vice versa. Formula E actively encourages the use of public transportation to attend the races and provides no dedicated parking facilities.

### Vehicle development

The regulations provide for further developments to be made by the participating teams, vehicle manufacturers and technology corporations only in areas where this makes sense. As a result, updates of aerodynamics are prohibited and the racing chassis is identical for all teams. Innovations in the area of the powertrain (electric motor, inverter, transmission and control electronics) as well as the cooling system and rear suspension are definitely required and essential to success as well. Battery management and driving style are

particularly important factors. This is where the race drivers can play a part as well, plus provide valuable input to the engineers – also for the development of electric powertrains for road-going vehicles.

### Energy

The trackside energy for the race cars comes from a sustainable source. Aquafuel Research Ltd., a UK-based company, has modified conventional diesel generators for this purpose so that they supply the electricity for the 40 race cars with near-zero-emission glycerin as the energy source.

### Tires

The specification tire has been designed as a hybrid tire, so that it works on both a dry and a wet track. The tires last for the full race day and are subsequently recycled.

### Roborace

During the races, evolutions of fully autonomous race cars are created and presented to the spectators.

### Catering

Attention is paid to sustainability in catering activities for race personnel and fans as well, the keywords being: local, seasonal, vegetarian, vegan, organic and fair trade.

### Post-race activities

Together with its partner Chargemaster Formula E installs ten charging stations for electric vehicles at every venue that remain in the city.

## Sustainability at Schaeffler

### A vital component of corporate culture

*Long-term profitable growth is not possible without a comprehensive commitment to sustainability – that is why sustainability at Schaeffler is important across the entire value chain, including Research and Development, Purchasing, Production, Logistics, Marketing, Sales and Aftersales. With sustainability anchored in its corporate DNA, Schaeffler has been linking its business success with acting responsibly toward the environment, people and society.*



# 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

## 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 01+, three-speed transmission

## Chassis

Specification carbon fiber-aluminum chassis from Dallara

## Dimensions

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

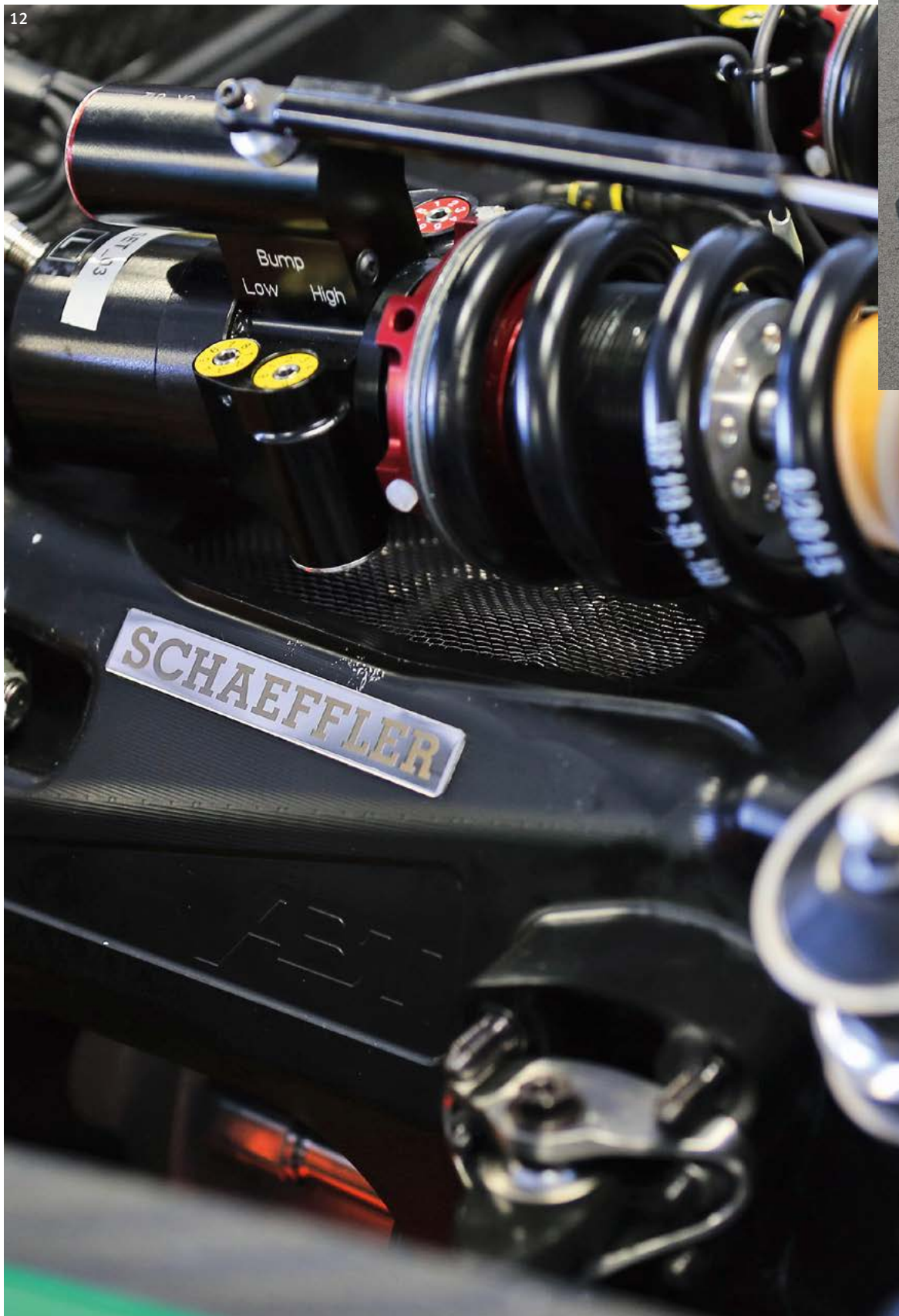
## Power output

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



Video  
The powertrain of the ABT Schaeffler FE02





Extensive tests  
ABT Schaeffler Audi Sport  
is perfectly prepared for  
the 2016/2017 season

# Well *equipped*

The basic concept for the powertrain of the ABT Schaeffler FE02 remains identical to last year. 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. 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

“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) together with Formula E CEO Alejandro Agag



# Spectacular statement against climate change

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 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 careful planning so that it could be implemented with the least possible input. Stunning images have attracted huge interest worldwide with around

three million visitors on YouTube alone. The images also provided footage for a 48-minute documentary which was 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.” ■



Unknown territory The Formula E car is lowered onto the glacier



#ProjectIce



# A tradition of *innovation*



Hall of Fame Success not only in single-seater racing

**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**

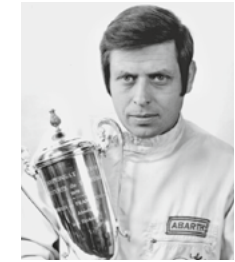
ABT Sportsline is one of the most successful motorsport teams in Germany and Europe. Its history in racing dates back more than 60 years and began with initial victories scored by Johann Abt in the 1950s. The first recorded success took place in a dirt track race, followed by victories and titles in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

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 the *Cockpit*

In Lucas di Grassi (32) and Daniel Abt (24) 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](#)






## 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

-  [danielabt.de](http://danielabt.de)
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-  [daniel\\_abt](#)
-  [AbtDaniel](#)







## 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.



## 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.



# 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

## 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



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



**1,000,000 \$**  
Prize money at the Las Vegas eRace early in 2017



**78**  
TV stations

**7,240 hrs**  
TV broadcasts



**56 kWh**  
of energy may be used by a driver per race

## Season 2

**270,319**  
Spectators visited the racetracks



**28,163**  
news articles

**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

### Schaeffler facts

- ≈ 85,000 ..... employees worldwide
- 13.3 ..... billion Euro turnover in 2016
- > 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

**20,000**

conventional AA batteries provide the same amount of energy



# Facts and figures about Formula E in *Buenos Aires*



↑↓ **2,480 m**  
Track length

- 1 Main entrance
- 2 Media Center
- 3 Dance Area
- 4 Podium
- 5 Pit lane
- 6 Start line
- 7 Finish line



## Schaeffler

- schaefflergroup
- @schaefflergroup
- schaeffler.com
- Schaeffler

## Team ABT

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

## Schedule Sat, Feb 18, 2017 (local time, CET -4)

- 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)
- 15:00 Driver parade
- 15:23 Pit lane open
- 16:00 Race (37 laps)
- 17:05 Podium ceremony
- 17:15 – 17:30 Press conference (Media Center)



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mobility for  
tomorrow

## Formula E

- @FIAformulaE
- fiaformulae.com