

FORMULA E

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The Formula E series arrives in London this weekend for the first UK ePrix – staged in Battersea Park



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Get set for electric racing

With more of a whoosh than a roar, Formula E arrives in the UK this weekend giving Brits their first real taste of the top all-electric racing series

◆ OVERVIEW

● CHRISTIAN SYLT

This Saturday and Sunday, Formula E takes to Battersea Park for the finale of its inaugural season. The famous London park is far from being the home of British motorsport – and that’s no accident.

It is often said that the aim of Formula E is to make motorsport sustainable. However, perhaps more importantly, the series has also set out to make it more accessible to a new audience.

There is an elaborate formula for achieving this. As its cars make little or no noise and no emissions, they can race in city-centre locations which show off the local landmarks on television better than a purpose-built track out of town where motor races traditionally take place.

The format of the race has even been tailor made for towns. Formula E races in some of the world’s busiest cities, including London, Long Beach, California and Berlin, but it wouldn’t be welcome if it brought with it weeks of disruption.

While most motorsport series stage qualifying and the race on different days, Formula E stages qualifying laps on Saturday morning followed by the main event in the afternoon. It minimises disturbance to local people – and has another trick under its bonnet.

The cars are powered by the most cutting-edge batteries available, but even these aren’t enough to go a full race distance. The batteries can’t be changed mid-race as they need to be heavily insulated for safety reasons. Instead, the drivers change cars in the middle of the action and even then their total time on track is still less than that of many other motor races.

It is designed to maintain the attention span of fans from the internet age, who are used to getting short bursts of information rather than watching an event which may seem to drag on for hours. It also helps to ease any concerns that the race will greatly interfere with everyday life, which is how the series has managed to secure such prime spots.

In turn, the central locations make it easier for fans to attend the races and the

doors are literally thrown open to them in many countries. One of the biggest complaints about major sporting events is the high ticket price driven by the high overheads from hosting them.

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The aim of Formula E is to make motorsport sustainable and more accessible to a new audience

Formula E has turned this around by not asking all its host cities to pay a hosting fee. Instead it gets them to provide prime positions for the race as well as assistance with the preparations

and introductions to local sponsors. It means that tickets to some races are

free, which boosts exposure for team sponsors and the series itself.

Complementing this strategy, Formula E has deliberately signed free-to-air television deals to ensure fans can see the series, giving it a solid foundation of spectators and viewers. Taking it one step further, fans can even vote online for their favourite drivers with the top three getting an additional boost of power during the race. The system, known as FanBoost, has angered racing purists, but engaged a new generation of tech-savvy fans.

Likewise, the lack of noise from the cars has fuelled criticism from die-hard petrol-heads, but attracted a new group of fans. Rather than digging its head in the tarmac, Formula E has embraced the dilemma and blasts music from speakers at the track during key parts of the race. The themes are carried through to its pre and post-race entertainment when an EJ – as in DJ with an “E” for electric – puts on free entertainment for the crowds.

It is an inclusive atmosphere both off-

track and on it as Formula E teams have made a point of employing female drivers. They aren’t there for show. All drivers in Formula E stand an equal chance since the teams all have to use the same chassis, engine and tyre supplier. It is one of the reasons why there has been a different winner in almost all the races this season, which addresses one of the most common complaints about motorsport – that it can be monotonous.

Formula E is anything but and it has attracted a list of blue-chip partners, including logistics firm DHL, Michelin, Renault, luxury watchmaker TAG Heuer, Visa, Julius Baer, Qualcomm and BMW. Its tally of team owners reads like a roll call of the great and the good of racing and entertainment, from Alain Prost and Audi to Sir Richard Branson and Hollywood A-lister Leonardo DiCaprio.

They are part of the action because Formula E is sustainable, but also because it is driven to attract a new audience. Formula E is succeeding in opening new doors to motorsport – and it’s only just getting started.

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Bright spark behind Formula E series

When Formula E launched in 2012, few thought it would get off the ground because of its reliance on unproven technology, but it has succeeded due largely to the drive of one man – Alejandro Agag

◆ INTERVIEW

● CHRISTIAN SYLT

Motor racing may seem to be one of the most pioneering sports, but in fact it is far from it. The basic principle of driving on tracks and trying to stay in front has been practised for more than a hundred years and now the sport thrives on repetition.

Whether it is drivers testing their cars or racing in a simulator. Whether it's the pit crew practising pit stops or the model of the car being tested in a wind tunnel. The wheels of motorsport turn because the participants practise the same thing time and time again. It makes the industry ripe for innovation and this is where Formula E comes in.

Formula E was created to address many of the biggest criticisms levelled at motorsport. There are no carbon emissions from its cars and no complaints about the piercing screech of an engine as it has been replaced with the quiet hum of an electric motor. The organisers generally don't even ask venues to pay a hosting fee to stage its events as is common with most high-level motor races. It is a bold gamble and a lot is riding on it. Not only could Formula E change the face of motor racing, but it could also be just what is needed to drive sales of electric cars.

Formula E's chief executive Alejandro Agag is a former owner of a successful team in Formula 1's junior series GP2, so he hardly has hippie credentials. The suave 45-year-old is an economics and business studies graduate from the Colegio Universitario de Estudios Financieros in Madrid, and is fluent in Spanish, English, French and Italian. He first made his name in politics and in 1999, aged just 28, he was elected as a member of the European Parliament. He entered the economic and monetary affairs commission and focused on anti-trust policy.

Although Mr Agag stepped down just two years later, his time in politics introduced him to an important person in his life – his future wife. He became somewhat of a celebrity in Spain as in 2002 he married the daughter of the country's former prime minister José María Aznar in a ceremony attended by VIPs including Tony Blair and Rupert Murdoch. As well as owner of GP2's championship-winning Addax team, he also became a board member of Premiership football club Queens Park Rangers. But a chance meeting in early-2011 gave him new drive.

"It came out of the blue, at a dinner in Paris," says Mr Agag. "I was at dinner with Jean Todt [president of motor sport's governing body the Fédération Internationale de l'Automobile (FIA)] and the vice president of the European Commission, who is a good friend of mine. He started talking about the



FIA president Jean Todt with Formula E founder Alejandro Agag

European Commission pushing electric cars and Jean Todt was also saying that the policy of his presidency of the FIA is clean mobility. So I wrote on a napkin that we should do an electric car championship."

Scrawled on the napkin were the pillars which became the foundation of Formula E. "I wrote on the napkin that it would be great to do a championship with electric cars; that I have to check on the technology; I have to race in the cities; and that the motor industry is going in that direction. That was the napkin. It was historic."

Without Mr Agag knowing, the FIA was already investigating the possibility of creating the world's first all-electric championship and in April 2011 it was announced. Mr Agag put in a bid. In August 2012 the FIA rubber stamped his plan.

Through his work in motorsport, Mr Agag came across French company Formulec which made the only single-seater fully electric racing car. He got an estimated €70-million investment from

COMMERCIAL FEATURE

“
Green credentials attracted a glittering line-up of team owners from Audi and former F1 champion Alain Prost to Sir Richard Branson’s Virgin Group and Hollywood star Leonardo DiCaprio

Spanish real estate developer Enrique Banuelos and bought Formulec. The two businessmen set up Formula E’s Hong Kong-based parent company and Mr Agag says that “Enrique immediately understood the idea”. He adds: “We bought out Formulec which made the first prototype single-seater full electric racing car. We needed this because if we didn’t have a car, we would not be credible.” That was just the start.

Mr Agag got together the great and the good of motor racing to collaborate on the end-product. McLaren, the championship-winning F1 team, makes the car’s 300bhp electric motor. Former F1 supplier Michelin provides the tyres, while another F1 team, Williams, supplies the batteries, and Renault is the technical partner of the series. It wasn’t smooth running.

“There were many times when I thought it wouldn’t get off the ground. The lowest point was when we lost our battery supplier. Before Williams, we made a deal with a major manufacturer for the battery, but the deal dragged on and was never signed. Six months before we should have had the prototype car, we lost them and it was a catastrophe. Without a battery there was no championship. We even thought it may be impossible to do because these guys had said they were not capable of doing what we wanted. That was the lowest point. By that time we had invested many millions in the project so it was really tricky, but then Williams stepped in.”

Williams is not just a championship-winning F1 team. It also has an advanced engineering division which applies F1 technology to other fields. In 2010 it began a technical partnership with Jaguar on its C-X75 supercar which was powered by a turbo-charged 1.6-litre petrol engine as well as two electric motors. Although the brakes were put on the project in 2012, Williams had already done the groundwork on the batteries to power its motors.

“Williams stepped up to a really difficult technology challenge and made it. All the cars work all the time. Cars don’t stop on the track,” says Mr Agag.

The one catch is that the Formula E cars can’t make it through an entire race on one battery due to the demands of the motor. Even the most cutting-edge batteries simply aren’t up to it and they can’t be swapped mid race due to the strict safety guidelines which require them to be fully insulated. Instead, cars are swapped during the race, which some say highlights the limitation of electric cars. The level of interest in Formula E suggests otherwise.

In 2013 Formula E signed a broadcast deal with Rupert Murdoch’s Fox network which shows the races in the United States and more than 80 other territories. In the UK it is shown free-to-air on ITV to give maximum exposure and a worldwide television audience beyond the dreams of most new racing series.

Having cars which produce no emissions and make no noise helped Mr Agag sign deals to race in the most

glitzy city-centre locations, including Long Beach, California, London, Miami and F1’s heartland of Monaco. Being in the middle of cities shows off the local landmarks which in turn drives tourism. Green credentials also attracted a glittering line-up of team owners from Audi and former F1 champion Alain Prost to Sir Richard Branson’s Virgin Group and Hollywood star Leonardo DiCaprio.

Sponsors were soon attracted to the series and it is still signing them up with two of the most recent additions being Swiss bank Julius Baer and financial services firm Visa. “The reason these companies are with us is that they care about the environment. They have a corporate social responsibility policy which is part of their DNA. They believe in it and they think it is also good for business,” says Mr Agag.

“So having a championship that also represents those values – it is a very strong association. It would have been impossible for any other asset, without a track record as we had, to sign those kinds of deals. We were able to sign them because of the sustainability concept. That is really our strongest point and the second strong point is racing in the cities. Sponsors and partners really think that is very important. We are becoming an urban world, so to find a solution to what is happening in the cities is very important and electric cars are part of the solution.”

Perhaps the biggest vote of confidence is that Formula E managed to secure fresh investment before it had even hosted its first race. In December 2013, Mr Agag and Mr Banuelos sold around 10 per cent of their company to Causeway Media Partners, an American fund founded by venture capitalist Bob Higgins along with Wyc Grousbeck and Mark Wan, the co-owners of the Boston Celtics, the most successful team in the NBA basketball league.

Since then other investors have joined including mobile technology firm Qualcomm and the pairing of broadcaster Discovery Communications and media mogul John Malone’s Liberty Global. The latter invested in March and is now Formula E’s largest shareholder, though it does not own a majority stake. There are six other owners, with Mr Banuelos and Mr Agag holding the biggest stakes.

Looking to the future, Mr Agag says that in five years battery power will have improved so much that the cars will either be able to travel twice as fast or twice as long, thereby making the mid-race car change redundant.

He adds: “The five-year plan is to add a few cities and especially to get manufacturers in. Now we have two with Mahindra and Renault. I think we will have one for sure or maybe two next year. The plan is to maybe have four. I’d like to have a German one, a Japanese and an American.”

Mr Agag concludes: “It will take time for everything in life to be electric, but at some point it will be mainstream and we will be there. So basically the key to success for us is long-term survival.”



MALAYSIA RACES AHEAD WITH ELECTRIC GREEN

Malaysia’s eco-city Putrajaya is the perfect setting for electric racing and showcased its shared environmental credentials with Formula E



Dato’ Sri Johann Young
Chairman



To understand why Formula E is such a big deal in Malaysia you need to understand the host city of Putrajaya.

Built from scratch in 1995, Putrajaya is an eco-habitat. It fuses green living with the latest in technology. It’s slogan sums it up: “The world’s first intelligent garden city”. It could be the spiritual home of Formula E.

More than a third of the city is reserved for green spaces. There are 200 hectares of wetland, home to many bird species, and a 400-hectare man-made lake, giving 38 kilometres of waterfront.

Wide boulevards and well-considered roads mean traffic flows smoothly compared to Kuala Lumpur, which is just 25km away.

The word “intelligent” in the slogan is as important as “green”. Efficient lighting and gas district cooling were incorporated from the outset. Super-fast fibre broadband is universal, underpinning the aim to make the city a global hub for tech research and development. It’s built for the internet age.

So, for Malaysia, hosting Formula E was more than about entertainment. It was about bringing global attention to the achievement of Putrajaya.

Formula E Malaysia chairman Dato’ Sri Johann Young masterminded the plan to host the race on the streets of this extraordinary city.

“If we had gone to the government with just any race, they would have said no,” he recalls. “It was the environmental aspect which mattered.”

When an analysis is done of the impact this race had on the economy of Malaysia, the calculation goes beyond numbers. It needs to factor in the impact Putrajaya can have on every other urban environment in the world. Other cities will see what can be done and learn.

Naturally, to get maximum impact Mr Young and his team needed to host a perfect race. As the second race of the first season, it was vital to deliver. And boy, did he do so.

“
The government wanted to bring in international tourists using the race – and to show how green we are

Mr Young had taken a bit of a gamble in not locating the race at the Sepang circuit near Kuala Lumpur, but opting for a street race. An ePrix on the open roads of Putrajaya would be perfect to showcase the city. Capacity would be huge. And it would establish just how different Formula E is to petrol-based racing, associated with Sepang.

The entire race went like clockwork. And the impact was simply sensational. “We had 93,000 people turn up. That is incredible. It might not look like it when you are there, because the race area is huge, but on a hot day, when people might not

want to go out? In terms of atmosphere, it was like Formula 1, only electric,” he says.

The race was a commercial success. Those 93,000 visitors all paid to attend, bar a few free tickets for sponsors, government officials and local residents inconvenienced by the closing of roads. Sponsors were willing to back the race.

“We had BMW, the local branch of DHL and the government backing us, plus a few local businesses. That was impressive because the first time no one can be sure who will watch the race or who is going to turn up. Next year will be easier. I already have interest from sponsors,” says Mr Young.

Naturally, the global publicity ranks as the top dividend from this first race. “Malaysia works hard to promote itself globally as a tourism destination. You may have seen the campaign, Malaysia, Truly Asia,” adds Mr Young. “The government wanted to bring in international tourists using the race – and to show how green we are.”

On every metric, Malaysia outperformed expectations. Malaysia can now look forward to the second season of Formula E knowing it is fast becoming a cult destination for electric racing.

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◆ TECH SPECS

● WILL TYSON AND JOE DIAMOND

As the world's first fully electric race series, Formula E's revolutionary and innovative technology is at the forefront of its vision. The series has already begun to shape our automotive future through the ever-increasing success, durability and reliability of battery power and the benefits of its combustion-dodging electric motor.

While Formula E hasn't had uniform praise, nobody can doubt the advanced technological innovation it has brought. Including the driver, the car weighs less than a tonne (896kg minimum), making it both agile and quick off the line. It goes from 0 to 62mph in just 3 seconds, with top speed limited to 140mph – these are quick cars, no question.

The standard Spark-Renault SRT_01E chassis that teams currently run will be substantially revised next season pushing performance further. Increases in efficiency and speed are on track to filter down to the road cars of the future, but the greatest impact is likely to be with the motors and batteries.

Despite having its eye on the future, it is two old Formula 1 hands in the



Increases in efficiency and speed are on track to filter down to the road cars of the future, but the greatest impact is likely to be with the motors and batteries

form of McLaren and Williams which helped to spark the birth of Formula E. Behind the seat of each driver's cockpit sits the motor from the groundbreaking McLaren P1 supercar, while nine-times F1 champions Williams have developed the lithium batteries that charge each car up to 200kw (or 270bhp, for comparison's sake). They are far from off-the-shelf products.

Williams Advanced Engineering (WAE), the technology and engineering division of the Williams F1 team, was approached about supplying the batteries for Formula E in April 2013. The racing industry is a fast-paced business and Williams is at the leading edge of this. Testimony to this, it was able to provide 40 cars with batteries just 12 months after being selected for the job.

WAE was able to race to the mark because of its track record. In 2010 it began a technical partnership with Jaguar on its C-X75 supercar which was powered by a turbo-charged 1.6-litre petrol engine as well as two electric motors. Although the brakes were put on the project in 2012, WAE had done the groundwork on the batteries to power its motors by then. Back in F1, WAE manufactured its own energy storage mechanisms for the Kinetic Energy Recovery System (KERS) which was introduced in 2009.

WAE also designs and produces the hybrid systems which are slowly creeping into public transport, so developing battery technology for Formula E was a logical step in terms of research and development. According to WAE: "There is an adage that motorsport improves the breed. Formula E is an excellent op-



Developing electric motors and batteries

The rigorous environment of motorsport is a testbed for the development of products and technologies which trickle down into everyday life

PERFORMANCE

3 seconds
acceleration from 0 to 100kmph

225 kmph
maximum speed

200kw
peak power limit (270bhp)

28kwh
maximum usable energy

portunity to further our R&D and experience in designing and manufacturing battery energy storage technology, testing in a very demanding environment."

While WAE remains tight lipped on the costs to make and buy one of its batteries, it is clear the process is painstakingly long and requires meticulous work.

"We can regularly manufacture a battery in 85 man-hours and that takes three to four technicians about two to three days per battery," the company says. A large amount of this can be put down to manufacturing the battery's own carbon fibre monocoque, which must be capable of passing a crash test – a first for any battery in racing history. This is cutting-edge engineering at its finest.

"The battery management system is state of the art and has been developed completely in-house – and is an evolution of the system initially developed

for our F1 KERS. Our thermal management system is also very sophisticated and innovative," says WAE. It is one of the biggest challenges with producing the batteries.

"The batteries have to work in a specific temperature window – too cold or too hot and you do not get peak performance, so we have a design that can keep the batteries within this window and keep them cool when pushed hard," the company says.

WAE has high hopes for the future of battery technology in Formula E. In five years it expects the batteries will have double the energy density of any current lithium cell while the total weight of the battery pack will half. This will be driven by an expected 40 per cent increase in knowledge of battery chemistry, which will ultimately trickle down into our everyday appliances. That is the real power of Formula E.

Sat above the batteries in the cars is the electric motor, developed by another hallowed name in motorsport – McLaren.

Ahead of its inaugural season, McLaren Electronics Systems agreed to become Formula E's sole motor supplier, with the marque supplying the heart of every one of the 40 cars used on each race weekend. With McLaren firmly at the forefront of automotive technology, thanks to its motorsport commitments and production of the P1 hybrid-supercar, it was the natural choice for Formula E.

The motor itself, or Motor Generator Unit (MGU) as it's officially titled, has its components taken directly from the £866,000 P1, including the rotating electromagnets at its centre. They help take drivers from zero to 60mph in an impressive three seconds. Blink and you miss it.

Working-based McLaren's route to Formula E started at a time when the P1 was in its infancy and Formula E was merely a glint in the eye.

"We started developing electric motors and controllers several years ago because we couldn't find anything in the marketplace which was small enough and powerful enough for what we wanted to achieve in the McLaren P1. To put that into perspective, you're getting around about 5kW/kg from this motor and that's more than double the sort of power densities you see in most automotive electric motors," says McLaren.

Formula E's electric-only approach has greatly benefited McLaren with the development of their MGU, alongside the company's hybrid-projects such as the P1.

"An electric racing car is quite different from a hybrid because the electric motor has to do everything and it reacts instantly to driver demands. So you have instant torque; you have instant braking. It's the first time that we've been involved with a programme where you don't have the luxury of an internal combustion engine to lean on," the company says.

With the season nearly over, no one can deny McLaren their 100 per cent reliability record thus far, amid the continued development of their electric motors, for road and for race. It is no mean feat.



1. McLaren's motor generator unit powering the Formula E series
2. The 200kW batteries developed by Williams

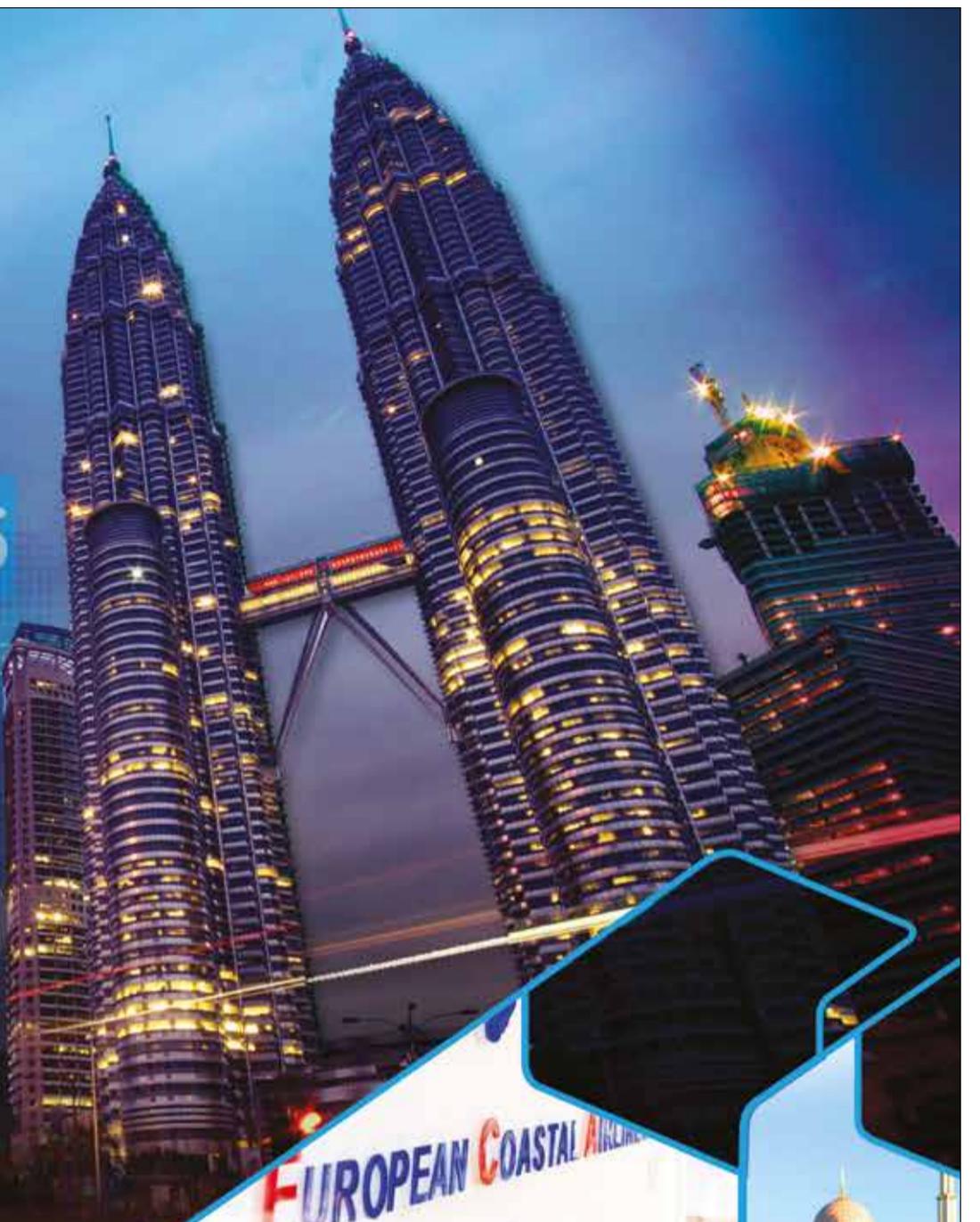


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High-performance racing cars not only compete for pole position and the chequered flag, they also serve to test technology which

◆ MANUFACTURER'S VIEW

● DANIEL PUDDICOMBE

Motorsport and road car development have been intertwined since cars were first produced in the late-1890s.

Vehicles were raced and lessons learnt on the early race tracks, which were little more than dusty, pothole-strewn dirt paths from city to city, unlike the purpose-built circuits of today. This led to new features being developed which then filtered down, leading to more and more advanced road cars.

Things haven't changed much in the 120-odd years since the dawn of the early horseless carriages. If anything, car makers are using the race track to develop new technology for the road more than ever.

The old adage of "win on Sunday, sell on Monday" still rings true. Motorsport allows car makers to showcase their latest and greatest technology at Sunday grands prix, while dangling an enticing carrot in front of spectators saying, "This could appear in your road car in a few years' time".

Obviously, Formula E is at the forefront of the electric-car development race. Renault, famed for its electric car range, helped to develop the single seat-



Car makers are using the race track to develop new technology for the road more than ever

er's power unit and also provides each team with technical support, while Audi is on board with its Abt Sportline team. Ingolstadt's arch-rival BMW is also using the championship to showcase its i3 and i8 plug-in hybrids.

Renault says its involvement in the championship "boosts awareness of electric powertrains and strengthens the general public's trust in the technology". According to the Society of Motor Manufacturers and Traders' figures, Renault registered 1,016 of its Zoe model in 2014, making it the second most popular pure electric vehicle of the year.

Housing a 250kg battery in a single-seater while providing sufficient range were two of the biggest challenges. And these problems are evident in current road cars as most pure electric vehicles only have real-world ranges of less than 100 miles. Vehicles have also been packaged carefully so boot and passenger space isn't compromised.

However, the French car maker developed a battery for the series which it says is fully integrated into the structure of the car.

"This is completely new [for us]," a Renault spokesman says. "We also used composite materials to keep the mass

down, and we developed an extremely stiff chassis that is electrically insulated and protected against fire." Renault's road car boffins provided help with the latter elements, while these developments could filter down to the next-generation of the marque's electric vehicles.

As well as playing the role of technical adjudicator for the series, Renault is also the title sponsor of the e.DAMS team. The firm says the sponsorship "helps maximise the coverage of its involvement within the series". Alain Prost is a co-owner of the team and his son is one of the team's drivers, so the partnership makes sense. To motorsport fans, the two go together like moules and frites.

Renault's involvement from an early stage in the championship will undoubtedly help in the future. From next season, teams will be allowed to develop their own powertrains. Renault's sporting arm, Renaultsport, will take over the e.DAMS outfit and that surely will help bring more developments to the road-car arena in the future.

In February, Formula E's chief executive Alejandro Agag talked about the need to have "actors" joining the series to compete and develop technology for the future, which in turn would improve road cars.

Renault refuses to say how much it is investing in the series, but the simple fact of the matter is through its involvement in the championship, the French *acteur* is winning on Sunday, while the whole electric car industry is selling on Monday. According to the Driver and Vehicle Licensing Agency, registrations of ultra-low emission vehicles were up by 366 per cent in the first quarter of this year.

Formula E's organisers often talk about the championship creating a buzz, but they're only partly right because it is also helping to put more and more electric cars on the road.



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Gearbox

Hewland paddle-shift five-speed sequential

Steering wheel

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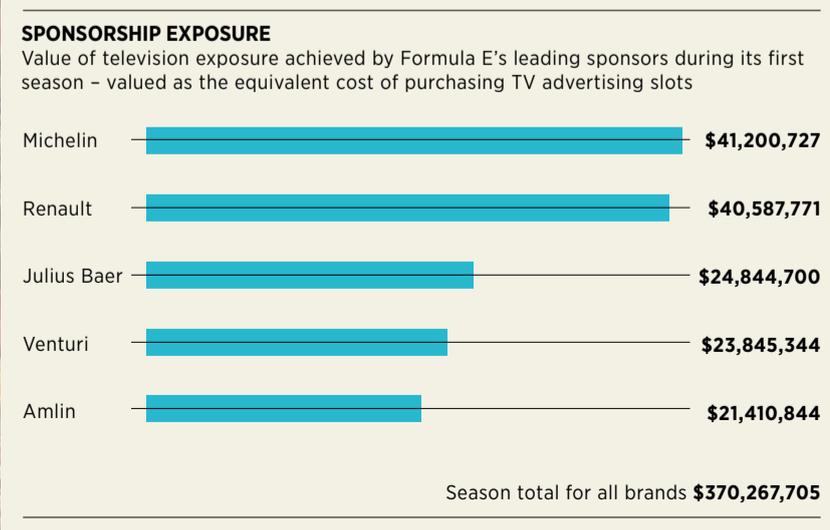
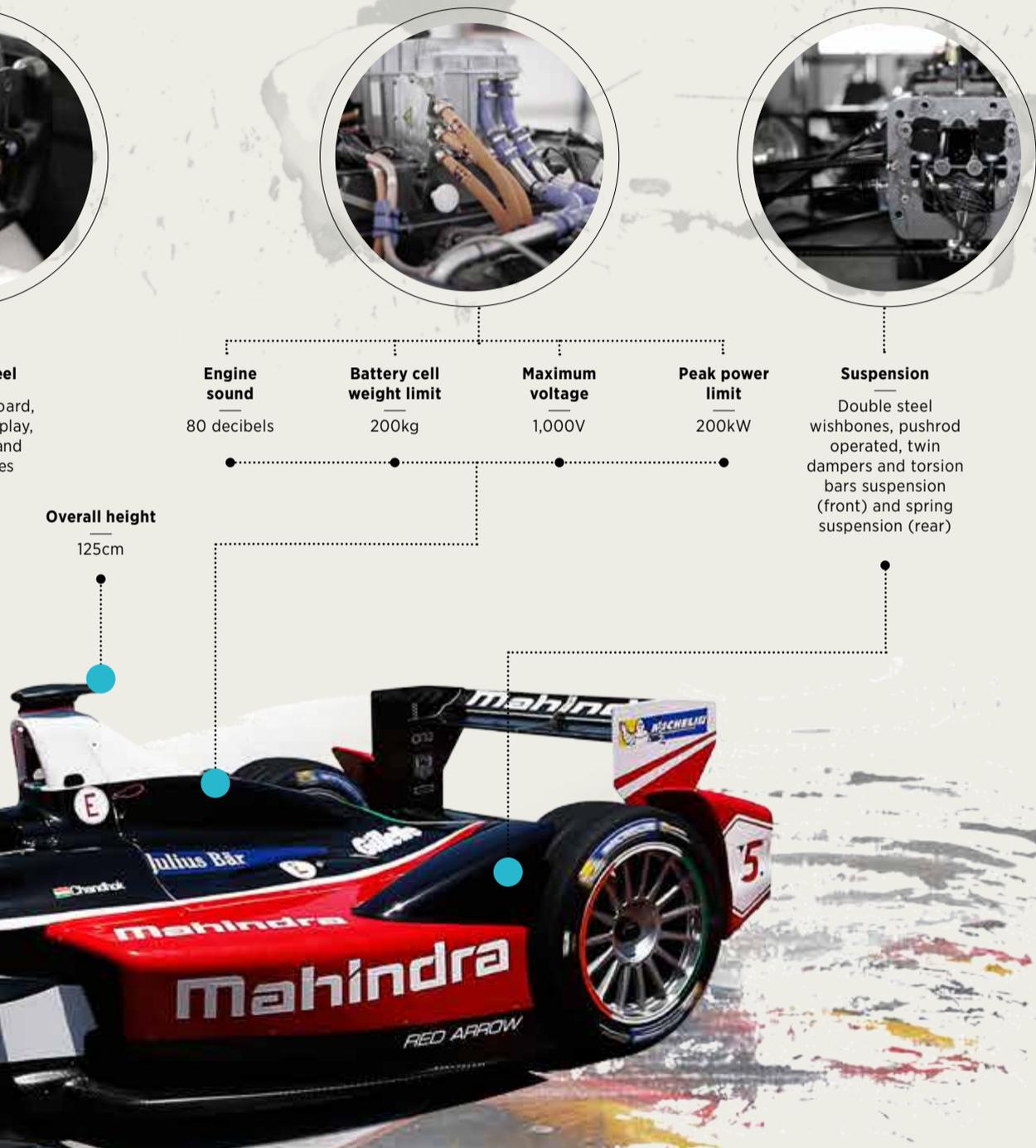
0-62mph
3 seconds

Max speed
140mph



Monday...

has the potential of going from slipstream to mainstream



Source: Formula Money



1.4bn Chinese reasons to win

Steven Lu, team principal of NEXTEV Team China Racing, explains why he entered Formula E, what he wants to achieve and his vision for the future of the championship

◆ **TEAM VIEW**
● **BEN DEACON**

Three years ago, after the demise of two international championships in which his China-branded team was competing - Superleague Formula and AIGP - Steven Lu was left searching for another series.

"I was looking for a series that could last longer," he says bluntly. "I had meetings with people about electric racing cars and saw that Formula E had the potential to be a great series for us. I believed electric vehicles would become more and more popular in China, particularly because of the pollution and energy crisis."

From this discussion, the China Racing Formula E team was born, with Mr Lu as its team principal. While his belief in the commercial viability of Formula E formed the backbone of his decision to pursue an entry into the series, Mr Lu's competitive mentality and ambition to put his country on the motorsport map also played a part.

"It is very difficult for a Chinese team to catch up in other racing series as there is limited involvement from Chinese car manufacturers. I think electric technology is more of a level playing field, so we decided to start the team."

It helped that the costs of competing in the championship were relatively low, at least in international motor-racing terms. Mr Lu estimates the current annual cost of running a team is around five to six million euros, with the lion's share of expenditure going on organisational costs. But he foresees this overall number increasing with the ability for teams to become manufacturers next year.

"We'll see how this goes," he says, when asked whether increased spending will boost performance. But for this year, "it

doesn't matter if you spend four or forty million", the on-track performance will be the same.

With Nelson Piquet Jr, the team's number-one driver, heading into the Formula E season finale on top of the championship standings, Mr Lu's instincts appear to have been spot on. The team is also on a sound commercial footing with the mid-season announcement of title sponsor NEXTEV, a new electric vehicle company with whom it will also have a technical partnership.

Predictably, his highlights so far of Team China's Formula E season came in Long Beach and Moscow, where Piquet took victory in both races. "I was very proud of the team's efforts; we have a great group and everyone works really hard," he says.

Mr Lu believes there is a common goal in the paddock. He says: "All the teams would like to understand more about electric cars as a result of this high level of competition. As the championship begins to allow the development of the powertrain, battery and more, we will begin to develop new technology."

The championship organisers plan to phase in the parts that teams and suppliers are allowed to develop. In its first year, the championship has been a single-make formula, with all the teams using the Renault Spark SRT_01E, but in subsequent years they will be able to purchase customised parts from different manufacturers. Next year eight approved manufacturers, one of which is team sponsor NEXTEV, will produce bespoke powertrains.

His vision for his team's future is simple and consistent with his reasons for getting into the sport. "We want to develop the technology and win more," he says. "I have 1.4 billion people in China waiting for a Chinese brand to lead the development of electric cars. We are trying our best to achieve this."

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I have 1.4 billion people in China waiting for a Chinese brand to lead the development of electric cars

COMMERCIAL FEATURE



Julia Jachim, founder and chief executive, Pit Lane Pairings

FORMULA E IS A NEW SERIES WITH ESTABLISHED VALUES

Mark Princevalle, co-founder and chief strategic officer of Trident Communications, explains how environment, entertainment and energy are the values driving Formula E



Marc Princevalle
Co-founder and chief strategic officer



There are few venues in motorsport as prestigious as Monaco, so it was no surprise when Formula E chose it as one of the host destinations of its inaugural season. Last month thousands of spectators flocked to the principality to watch 20 of the world's best drivers battle for victory on the legendary streets, but it wasn't only on track where the action was taking place.

The off-track highlight was the spectacular gala dinner in the Salle Médecin of the famous Casino de Monte Carlo. Monaco's Prince Albert II presided over the exclusive event which was attended by the stars of the sport as well as international celebrities including singer Natalie Imbruglia, actor Adrien Brody and Cirque du Soleil founder Guy Laliberté.

Trident Communications and its partners, Powered by Princevalle and Pit Lane Pairings, attended the gala as sponsors of Zoom, a charity auction of photographs taken by the stars of Formula E in aid of the series' official charities, the Prince Albert II of Monaco Foundation and Guy Laliberté's ONE DROP. It was a wonderful experience which gave us a unique insight into the values that drive the sport: environment, entertainment and energy.

The first of these values, environment, is something close to our heart. As one of California's premier communication companies, we have worked with a number of Los Angeles and Hollywood movie studios and supportive companies to help them design and implement green-based initiatives.

The value of entertainment was perfectly showcased at the Monaco gala and Pit Lane Pairings has a special understanding of the challenges of uniting the motorsport and entertainment industries. Indeed, Trident's partner, Pit Lane Pairings, is a unique company which reflects this balance.

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Trident Communications, together with experts from Powered by Princevalle and Pit Lane Pairings, aims to propel the world of motorsport forward by driving industry change towards an exciting, electric future

Pit Lane Pairings founder and chief executive Julia Jachim is a former prototype test driver for Ford Motor Company, an actress and imagineer with The Walt Disney Company, a Formula 1 pit-grid marshal, and IndyCar and NASCAR race official, which gives her a wide range of abilities and experience.

Trident partner, Powered by Princevalle, understands the importance of energy. The company enables the technological breadth of Trident's product

and service offerings through its implementation of innovative electrical infrastructure upgrades and enhancements within the United States and engineering projects on a global scale.

Trident will again be putting these values at the forefront when we visit this weekend's season-closing London ePrix. As a proud sponsor of the Zoom Formula E initiative, Trident Communications and its partners are pleased to be supporting the project as it reaches its climax at the post-race awards ceremony where a montage of all the photos will be auctioned for the charity's partners.

Trident and its partners will bring augmented-reality technology to life in the official book of the Zoom Formula E initiative, where guests will be able to use the technology to watch a video about the history of the project. This technology reflects Formula E's core values of energy, environment and entertainment by enabling distinctive innovation.

Fusing engineering, smartphone technology, video, marketing, motorsport, science, design, music and entertainment, Trident Communications, together with experts from Powered by Princevalle and Pit Lane Pairings, aims to propel the world of motorsport forward by driving industry change towards an exciting, electric future.

www.tridentcommunications.us

Fans come first in the ePrix

Putting fans first is a prime aim of Formula E and can be seen in the way this latest version of motorsport engages followers at race tracks and on social media



◆ FAN POWER

● KATE HEWITT AND KATY FAIRMAN

In its inaugural season, Formula E expects to reach a worldwide television audience of hundreds of millions – an impressive tally for a debut series. Although there are no confirmed figures of the global average from its opening year, fans appear to have taken to the first fully electric racing series.

It is estimated that Formula E's maiden race in Beijing attracted a global audience of 40 million, while 75,000 spectators were at the track and a total of one billion social media interactions flourished on the internet during the race, according to motorsport's governing body the Fédération Internationale de l'Automobile.

Putting fans first is one of the key aims of the sport; this can be seen through the way it has given fans and media accessibility to the drivers, tracks and events throughout a racing weekend. “It feels like everyone involved in Formula E has a unified goal of working together and making it a success,” says Formula E's pit lane reporter Nicki Shields. “Even the drivers who have had bad days, the last thing they really want to do is give an interview, but 99 per cent of the time they will.”

Fox Sports broadcasts Formula E to more than 80 countries worldwide, while ITV delivers the race action live to the UK. As a free-view channel, ITV gives the public access to all rounds without an annual subscription fee, allowing for larger audiences.

“The sport needs to grow and appeal to people who aren't fans yet,” says ITV's Jennie Gow. “It's all about reaching out to new people and a new generation; taking Formula E to schools and getting them to join will be key in appealing to new fans.” It would be an innovative way

of growing grass-roots interest in the series and there is a lot to attract it.

Formula E isn't just a new series, it is pioneering and that will always polarise opinions. The electric motors produce little noise and the drivers need to change cars during the races due to limited battery life. It has angered some hard-core racing fans, but drawn in a lot of new ones.

“The most common feedback I've heard is that the racing is great,” says Formula E commentator Jack Nicholls. “Despite whatever the [hard-core race fans] might think of the series itself, they can't deny that the racing has been great.”

The series is leading the way in the use of social media to involve an international fan base. Amlin Aguri currently have the largest Twitter following with more than 12,000 backers, while championship leaders e.DAMS Renault have about half that. Amlin conduct weekly competitions, engage with their fans and share information that no F1 team would dream of doing.

Mahindra Racing even let their fans choose the name of the car that drivers Bruno Senna and Karun Chandhok would pilot – Mahindra Nitro.

Perhaps the greatest power fans have in Formula E comes through its “FanBoost” system which allows them to vote online for their favourite drivers with the three winners getting an additional power boost of 50bhp for five seconds during the race. “As a hard-core motorsport fan, I should be opposed to it, but in general I think it's a great way to get the fans involved,” says Mr Nicholls, “FanBoost doesn't turn a rubbish driver into a race winner, but it does provide an extra small edge over the competition.”

Formula E has grasped the growing popularity of social media to share the best of what it has to offer and bring fans closer to the action.

Race is on for teams to build the best car

As Formula E's first year on the track reaches a climax, preparations are underway to further develop electric racing cars

◆ **FORMULA FOR CHANGE**
● **KATE HEWITT**

As the inaugural season of Formula E draws to a close in London this weekend, the series will crown its first champion, but the story doesn't end there. It is only just beginning and next year the biggest change will be behind the scenes as teams have the green light to innovate.

For years racing technology played catch up with road cars as cutting-edge hybrid engines became more popular, while those on-track tended to lack green credentials. Formula E raced into the spotlight to tackle this problem and has left rival series in its dust.

Electric racing is no longer just an idea or dream – it's reality. Fans have described it as being new, weird, unique, mad, unpredictable, action-packed and just what motorsport needed. A series that steers clear of politics and focuses on the most important thing – the racing.

Powered by an electric motor made by McLaren, alongside a 30kw battery from Williams Advanced Technology, Formula E's STR_01E car is the first of its kind.

Its chassis has been beautifully shaped from carbon fibre and aluminium by Italian manufacturer Dallara, the same company which makes the chassis for F1's feeder series GP2 and America's IndyCar championship.

Formula E cars hit 140mph which is just 60mph shy of F1. However, the difference is less noticeable due to Formula E's decision to race on city-centre tracks. These circuits use existing streets so lack sweeping corners which purpose-built tracks are famous for. Instead, they are full of tight angular turns, which require the cars to reduce their speed, making it harder for them to accelerate to their limit.

The same is true when F1 races on street circuits, so it levels the playing field with Formula E. This is why the difference between the average speed of the fastest lap for the two series at Monaco, the only track they both race on, reduces to just 24mph. Racing on city streets has other benefits too. It showcases local landmarks on television which benefits the city and country. The buildings also become soundboards for the high-pitched screech of the cars which sound like giant remote-control racers.

They draw in fans as tickets to many of the races are free. Even those watching from home can get stuck into the action through the FanBoost online voting system which engages fans unlike any other championship. It rewards the three most popular drivers a boost of 50bhp to encourage overtaking in the



bumpy, narrow streets that Formula E calls its circuits.

The standings going into this weekend's finale are dominated by Nelson

“**Formula E will next year become an open championship by allowing manufacturers to pursue in-house innovations, beginning with the development of bespoke powertrains**”

Piquet Jr, son of the F1 legend. However, just 23 points separate the top three drivers and there is good reason for this.

Although Formula E is new, its drivers are seasoned with backgrounds in a range of top-flight series, including F1 and the World Endurance Championship. Alongside Piquet sit other rela-

tives of famous names from F1 history, including Bruno Senna and Nicolas Prost. It gives Formula E history and tradition which are two qualities usually missing from a new series.

One of the big attractions for drivers is that the cars do not give anyone a significant advantage. This is because Formula E is what is known as a “spec series”, which means that all competing teams have to use the same chassis, engine and tyre supplier.

Now that Formula E has established itself, it is building on this and next year will become an open championship by allowing manufacturers to pursue in-house innovations, beginning with the development of bespoke powertrains. It should give a jolt to the running order.

Apple's Steve Jobs once said: “Innovation distinguishes between a leader and a follower.” Formula E is firmly in the former category and, as it continues to evolve, its manufacturers will be able to have more of an impact on the development of electric-powered road cars. The race is on.



A long journey back home...

Choosing London as the race finale was the dream, but it needed a team who make dreams come true

◆ **ROAD TO LONDON**
● **CAROLINE REID**

The streets of London are a standard feature of fantasy circuits designed by fans and video game publishers, but in the past few decades Formula E is the only series to pull off a real race on the capital's roads.

Kevin Still, operations director for Formula E, is the man in charge of the project. He says: “The UK is the home of Formula E and London is one of a handful of truly international cities. It was unthinkable that we would not come to London.”

Several high-profile venues were considered, but only Battersea ticked all the boxes. “We needed to find a location that would provide a spectacular location for the race, be practical to achieve in our first year and fit with our core values of sustainability,” says Mr Still. “Battersea Park lends itself to the event perfectly. Also, we wanted to find a location which would not cause too many disruptions to city life.”

Lengthy discussions took place before the local Wandsworth Council gave the green light, and the race only got final approval and planning permission in early-2015. The first step was to upgrade existing roads and car parks which, Mr Still says, “will be a lasting legacy for the park users for years to come”.

Temporary structures started construction on June 15, with working schedules carefully planned to minimise disruption to local residents. “We aim to have everything ready for the Thursday before the race,” Mr Still explains. “On Friday afternoon we will run a short event when the cars will be on track behind the safety vehicle to test all our systems are in place and in order.”

Making sure that the local community isn't disadvantaged by the race was a prime concern. “There are many interested parties with legitimate concerns about an international motor race in the park,” he says. “We have a regular community meeting to discuss the event and to develop plans to mitigate the residents' concerns.”

For this reason, many of the changes will be temporary, although some more permanent work was needed. Some areas of Carriageway Drive needed minor modifications in order for the circuit to achieve an FIA (Fédération Internationale de l'Automobile) grade III race licence, including replacing traffic barriers and relaying the track surface.

Organising the race is an incredibly complex operation. Mr Still highlights a long list of challenges including traffic management, crowd safety, logistics, moving in the physical facilities of concrete blocks, safety fencing and all the temporary structures, telecommunications networks, catering and facilities for the fans during the event. “Finally, we need to remove the entire facility and leave the park as if we had never been there – in a matter of days,” he says.

But Battersea will benefit. “Formula E brings millions of global viewers to London's doorstep and represents a vision of the future for sustainable transportation in a historical location synonymous with conservation,” Mr Still says. “It seals the UK as the major centre of international motorsport and adds a great event to London, bringing nearly 30,000 spectators to the area each day. On top of that, we've given the council £1 million.”

“**We needed to find a location that would provide a spectacular location for the race, be practical to achieve in our first year and fit with our core values of sustainability**”

London race is no walk in the park

It's a grand racing finale in the heart of London which is set to draw the crowds throughout the weekend

◆ LONDON ePRIX

● BUNMI ADE

The eagerly anticipated Formula E finale takes place over two days in London this weekend, marking the end of a 40-year hiatus for motor racing in the city.

The race is being staged alongside the Thames in Battersea Park, in the shadow of the iconic Battersea Power Station and just a short walk from the designer shops of stylish Sloane Square. More than 40,000 people are expected to attend over the two days.

Formula E chief executive Alejandro Agag says: "Ticket sales have gone through the roof – it means thousands of people are looking forward to this great event."

Given the challenges drivers will face on this unique track, mastering it will be no walk in the park. But winning the London ePrix is a top prize. Dragon Racing driver and Berlin ePrix winner Belgian Jérôme D'Ambrosio recently led journalists through Battersea Park on state-of-the-art electric bicycles for the official unveiling of the track.

Here's D'Ambrosio and Mahindra Racing driver Karun Chandhok's turn-by-turn view of the circuit designed by Simon Gibbons:

TURN 1

The start-finish straight of the 17-turn 2.922km anti-clockwise circuit runs parallel to the River Thames, zipping past the Buddhist Peace Pagoda. A major feature of the first turn, and indeed most of the circuit, is the severe camber – the difference in height between the two sides of the road.

D'Ambrosio says: "The camber is going to be a big challenge for sure. It is the most severe camber I've seen on



any track so far this season, so it will be interesting to see how we all maintain stability in the cars. We will run the cars higher than usual to stop the floor touching the road and to make sure that, when we hit the brakes, all four wheels are on the ground. Also, I think there could be a lot of safety cars."

The park's lanes will be very narrow once crash barriers are installed, making overtaking on many parts of the track difficult if not impossible. A good qualifying run to ensure a high starting position is therefore critical.

Formula E's qualifying format involves four sessions with five drivers in each group. "I hope I'm not in the first qualifying group as I think there are going to be a lot of leaves on the track," D'Ambrosio says.

"And I think we'll need to use our clear visors because of the shade caused by the trees."

URNS 2-3

A slight kink to the left takes us through turn 2 before we encounter turn 3, a 90-degree left-hander leading into a straight running parallel to Albert Bridge Road. "I think turn 3 could be a good overtaking spot," says D'Ambrosio, although this depends how the chicanes are laid out. This corner is home to the Prince Albert, a traditional pub and a local landmark.

URNS 4-7

Turns 4-5 and turns 6-7 are a series of quick left-right and right-left turns with



a short narrow straight between them. "You have to judge the braking zone correctly to avoid losing momentum through these corners," says Chandhok. "The area to the left of the track could actually be a good spot to watch the race from as it is slightly raised."

TURN 8

This is a 90-degree left turn around a roundabout. There is hardly any shade from trees at this corner so drivers will be happy to have a clear view as they exit this corner. Not far from this part of the park is London's only licensed Heliport which provides a vertical gateway to London for VIP race goers this weekend.

URNS 9-12

Exiting turn 8 leads to another straight broken up by another pair of quick right-left and left-right turns. This back

straight runs parallel to exclusive Victorian apartment blocks on Prince of Wales Drive, where a three-bedroom flat was recently on sale for £1.5 million. "Residents of these apartments will have a great view of the track," says Chandhok.

TURN 13

This is a long, sweeping left-hand turn which drivers are likely to be taking flat out. The chimneys of Battersea Power Station come into their view as they approach turn 14.

URNS 14-16

"Another overtaking opportunity will be at turns 14 to 15 before going into the pits," D'Ambrosio says. With limited chances to pass during the course of a lap, these three turns may be the most important of the season and could decide the result of the championship.

TURN 17

A short straight leads out of turn 16 down to the final left-hander to complete the circuit and return on to the start-finish straight.

The weather could also play a big role in the race. "Don't mention rain – we've not had a single drop of rain at any of the ePrix so far," D'Ambrosio says.



TIMETABLE

Saturday June 27

| | |
|-------|-----------------------------------------------|
| 7.00 | Gates open |
| 8.15 | Practice 1 |
| 9.30 | Formula E School Series – Practice/Qualifying |
| 10.30 | Practice 2 |
| 12.00 | Qualifying Session Group 1 |
| 12.15 | Qualifying Session Group 2 |
| 12.30 | Qualifying Session Group 3 |
| 12.45 | Qualifying Session Group 4 |
| 14.10 | Formula E School Series – Race |
| 15.23 | Pit lane opens |
| 15.50 | FanBoost |
| 16.00 | Race 1 (29 laps) |
| 18.00 | Gates close |

Sunday June 28

| | |
|-------|----------------------------|
| 7.00 | Gates open |
| 8.15 | Practice 3 |
| 10.30 | Practice 2 |
| 12.00 | Qualifying Session Group 1 |
| 12.15 | Qualifying Session Group 2 |
| 12.30 | Qualifying Session Group 3 |
| 12.45 | Qualifying Session Group 4 |
| 15.23 | Pit lane opens |
| 16.00 | Race 2 (29 laps) |
| 18.00 | Gates close |

Electric rock'n'roll

Music is an integral part of Formula E, designed to deliver all-round entertainment aimed particularly at a younger generation of race fans

◆ MUSIC

● PAUL GODLEY

Formula E continues to push boundaries not just in technology and sustainability, but in terms of entertainment and fan experience too. One way it has done this is through its innovative blend of motorsport and music.

Music is brought into Formula E in a number of ways, from the more traditional after-race concerts to the more unusual jingles which have been specially composed to introduce replays and incidents on the TV coverage. The most unusual part of this drive though may be the Formula EJ, the series' spherical-headed resident DJ whose identity remains a well-kept secret.

"We wanted to give the fans the experience that they have just stepped into a race scene from a movie," the anonymous EJ explains. "This meant creating and using music that very much sets the mood for what is happening on-track or on the TV."

Providing a fun, unique experience for fans is all part of the aim in helping to attract a younger, fresh audience to both the world of Formula E and motorsport as a whole. "It can be hard for some hard-core motorsport fans to except," EJ concedes. "However, the younger audience and those who like their music have really embraced it."

In line with the car development across season one, the reasoning behind the addition of music has evolved as time has progressed. "When we first came up with the idea to add music to the championship, we didn't know what noise the car would make," EJ says. The now recognisable and futuristic "whoosh" of the cars passing by has seen the role of the music shift, adding to the drama and excitement.

Much of the in-house music is for TV-broadcast purposes, EJ explains. It is primarily used for key moments in the race, such as the start, and sound effects, such as the red and yellow flags, and "FanBoost" social media interac-

tion. Do the series organisers have an input? "Formula E very much trust my judgment on all the music we use across the championship," EJ says, adding with a smile that it doesn't stop people thinking they know better. At the end of the day, the aim is to provide the best possible experience that will attract fans back time and time again.

With the series travelling around the globe, racing in front of some of the most eye-catching and spectacular backdrops the world of motorsport has ever witnessed, does the choice of music reflect the host city? In short, no. "The music is more based on the mood of the day rather than location," says EJ. This notion again shows the importance

placed on creating an exciting atmosphere that steadily builds and adapts to the events taking place on and off the track over the course of the day.

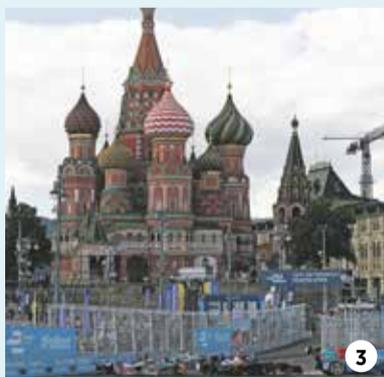
The goal is to see Formula E become synonymous with its music and sound effects, "just like the theme music to the Champions League or soundtrack to Jaws".

As practice, qualifying and the race all take place over the same day, each race is truly a day-long event and the music that is played across a multitude of astutely placed speakers draws on this perfectly. First there's a relaxing start before practice, with the pace being picked up again as qualifying looms large. Again, the importance of fan engagement rises to the top, with high-energy

music played across the eVillage activity and entertainment area to bridge the gap between the race for pole and the race for the chequered flag.

There is a real sense of pride and passion to create something vibrant that breaks the mould. The dynamism of the music perfectly encapsulates what the series is all about. "We finish off the day with feel-good house music so everyone leaves with a smile on their face," EJ says.

Live performance sets, after-race parties, concerts and downloads – the series offers it all. So, in the words of Eddy Grant, it is time to rock down to *Electric Avenue*.



1. Miami "EJ" 2. Buenos Aires ePrix 3. Race in Moscow



STARTING UP FORMULA E IN MALAYSIA...

If Formula E is the future of motorsport, Malaysia's Dato' Sri Johann Young is truly a man of vision



Dato' Sri Johann Young
Chairman



Malaysia was the first nation to sign up to host a Formula E race. Until Formula E Malaysia chairman Dato' Sri Johann Young shook hands on the deal there were other nations interested, but they were seemingly waiting for someone else to take the plunge first. So how did the deal get made?

"I met Enrique Bañuelos, the original investor behind Formula E, for lunch in London," says Mr Young. It was late 2012. "He said, 'I'm investing in this thing... do you want to invest?' I saw the potential immediately. It was all done very quickly."

The key was the commitment from the Malaysian government. In addition to becoming a sponsor, the government agreed to shut public roads for a street race and to supply man-power including policing. But why?

"The government is promoting Malaysia as a very green country. Environmental issues are given a priority. And Putrajaya is the ideal environment for Formula E. It is totally green. It was designed 100 per cent with the environment in mind. I know not many people are aware of this, but the city is committed totally to renewable



energy and low-carbon footprints. All the buildings have a green index, including the prime minister's office. So when I presented Formula E to the prime minister he saw the connection," says Mr Young.

“**Petrol racing will be a legacy race, like classic car racing - Formula E is the future**”

Yet even with government aid the race was not a foregone conclusion. Hosting a street race for a totally new format proved tricky. "It caused me a lot of headaches for the whole year," Mr Young recalls with a long, slightly relieved laugh.

He had to placate the locals, who weren't sure why the roads would be closed. Clear explanations, with free tickets helped.

The circuit needed to be built. "Getting the circuit up to FIA [Fédération Internationale de l'Automobile] standards is not easy. It takes a lot of time and money," he says. Pit areas in particular, aren't easy to construct for street races.

Then came training. Mr Young says: "We needed 2,300 people to host the race. This includes marshals, medics, catering staff, traffic management, power supply, security and so on." If this seems like a lot, then bear in mind most were for race week only. A core of 400 work on the race long term.

Marketing was hard. "We had only a small budget, like a startup. Fortunately, there was hunger from press. We did lots of newspaper interviews, radio interviews and Alejandro Agag [the championship's chief executive] did interviews too. Everyone was just so excited Formula E had come to Malaysia."

The biggest problem? Inexperience. "It was the marshals' first time doing a street race. It was everyone's first time doing a Formula E race. They need training. If you think hosting a race just means opening a circuit and waiting for the cars and teams to show up, I can tell you otherwise. We spent two years working on the race, getting through every obstacle. To host a race you need someone who is really determined." Mr Young pauses. "You need someone made of steel."

Mr Young proved he had what it takes. A serial entrepreneur, he founded Orange mobile phone network and has holdings in a number of disruptive startups, such as European Coastal Airlines, which connects Croatia's island archipelago with Dubrovnik, Zagreb and soon Venice with sea planes. "We cut a journey from two hours to 15 minutes, and charge €50," he says. "Again, what we do contributes to a better environment, while contributing to the economy of the entire region."

His main focus now is on building on his success with the Putrajaya Malaysian ePrix. "Formula E can be bigger than Formula 1," he says. "It's like analogue phones versus digital. Formula 1 is analogue, there's not much you can do with the cars. But Formula E is digital. You can do so much more, like put on electric turbo on demand."

"The younger generation who grew up with PlayStations can appreciate that about Formula E. I think Formula 1 will try to go hybrid and then what, electric? They may say no today, but they will. Petrol racing will be a legacy race, like classic car racing. I love Formula 1, we all do, but Formula E is the future."

"It's like digital cameras. People said they will never catch on. And then hey – we know what happened."



◆ DRIVERS

● GLENN FREEMAN

Star drivers back the thrill of electric

World-class drivers give their verdict on the Formula E car and say electric racing has taught them valuable lessons

Racing drivers love speed. So with this in mind, what is the appeal that has drawn top names from so many areas of motor racing to Formula E in its first season? It's well known that the first iteration of the Spark-Renault SRT_01E is not the most powerful of beasts, but it is merely the first step on a journey that is set to encompass phenomenal improvement in terms of car and technology performance.

Formula E cars will almost certainly become fearsome to drive in the future – the championship's chief executive Alejandro Agag is promising a "significant" increase in speed for the second season as the involvement of car manufacturers ramps up – but for now the formula takes vastly experienced drivers back to the earlier days of their career when they were finding their feet in low-powered racers. Yet there is something about Formula E that has not only drawn the interest of top international stars, but has kept them coming back for more throughout its first season.

The speed of the cars – they produce a maximum of 270 brake horsepower in qualifying mode and rarely surpass 200kph at the moment – is irrelevant to Jean-Eric Vergne, who has found a home in Formula E after spending three years in Formula 1 with Toro Rosso.

"It kind of works how it is at the moment – it's still great racing," Vergne says. "As a driver you always wish you could have more power, more grip, less weight, but you can have a lot of fun even in go-karts if you are with top drivers. We are on the ground floor of potential of Formula E. This is all just the beginning – and for the beginning, it's very good."

Karun Chandhok, with Formula 1 and Le Mans experience under his belt,

agrees. "It's not a high-speed driving challenge," says the top Indian driver. "The speed isn't great, we all know that, but because the level of driver is so high, we're pushing really hard. That makes the quality of the racing really good, so it's fun."

Vergne adds: "You can still have an amazing race. Even if the car is not quick, it's still extremely difficult to drive. You talk to the other drivers and we all say we struggle more to be quick in this than in an F1 car. That's the challenge. It's a lot more difficult to maximise everything. In F1 you know exactly

what you can do in each corner and you trust it. Here you cannot be sure of anything – the car is always moving around, it's not easy, but that's exciting."

Championship leader Nelson Piquet Jr, son of the three-times F1 world champion, has mastered the category better than most, particularly over the second half of the campaign, and he believes that blending the difficulty of driving the cars that Vergne speaks of with a measured approach behind the wheel is the key to getting the most out of them.

"You have to be confident with the car," Piquet says, "but that is a big issue for some of the drivers this season and you need the team to find ways to make it work for you. If you build that confidence, then you have to take control, stay calm and not make mistakes. The most important thing is to do everything cleanly and try to be as efficient as possible in the car. You have to do your homework – areas like getting the brakes working well are really important."

While the cars will get faster, Formula E has set itself up in a way that means it's not crying out for more speed. The street circuits are designed with the car's specifications in mind, so often they are shorter and twistier than conventional city tracks raced on in other championships.

As race winner and BMW touring car driver Antonio Felix da Costa points out, the lack of sound from the electric motor gives a different sensation of speed.

"It feels faster without the sound," says the Portuguese driver, who won the Buenos Aires round. "And on these tight circuits you don't need the top speed to be much higher."

"It would be nice to have more power when you first press the accelerator. At the moment you just hit it coming out of every corner and it's fine – no wheelspin, no trouble. So it could be more challenging in that respect. But top speed is not so important."

By racing cars featuring technology that has never been pushed to a high level in motorsport, the drivers are also learning a thing or two. Just this month, at the Le Mans 24 Hours, where nine Formula E drivers were in action, the benefits of the electric championship were being felt.

"Without really thinking about it, my natural style now means I was 5 per cent more [fuel] efficient at Le Mans than I was last year," says Chandhok. "I've learnt a lot about energy-saving and driving efficiently, and that's purely from driving in Formula E."

"If you look at racing across the world, they're all going hybrid, so fuel management and engine management is becoming increasingly important."

Perhaps the biggest compliment any driver can pay to the first iteration of Formula E car is to not single it out in the first place. Scotland's Dario Franchitti, a legend of American IndyCar racing, sampled the car in Moscow and his verdict of "it just feels like a normal racing car" will have been music to the ears of those involved in the project.

So perhaps speed isn't everything. There are certainly faster racing cars out there that are easier to drive, but as the current drivers in Formula E will attest, sometimes the challenge of a slower car outweighs the appeal of simple speed.



1. Nelson Piquet Jr
2. Karun Chandhok
3. Antonio Felix da Costa



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I've learnt a lot about energy-saving and driving efficiently, and that's purely from driving in Formula E...
Karun Chandhok

"All drivers love street circuits," says Chandhok. "These days so many things are so sanitised, you rarely get that buzz of driving where you're living on the edge. You get that in Formula E – 'whoah, am I going to hit the wall?' – and it's very special."

Meet eDrivers in party mood

The aim is to win the race, but Formula E is also about having fun and interacting with fans

◆ FORMULA FOR FUN
● KATY FAIRMAN

There has been a buzz about Formula E since it was announced in 2012. With races in city-centre locations, cars that make little or no noise and interaction with fans, the series was destined to drive attention on and off-track. It delivers.

Right at the top, celebrities such as Leonardo DiCaprio, Adrien Brody, Cuba Gooding Jr and Lindsay Lohan, have visited the races and enjoyed the hospitality. The most exclusive of these is a black-tie gala dinner on the Friday before each race, which is only open to a chosen few. It is hosted by the power brokers behind the series who give guests insight into the history behind Formula E.

During the race itself some of the most well-heeled guests can be found in the eMotion Club which gives access to a pit lane walk and has the best views of the track, as well as a wide range of food and drinks. Capping off the weekend, an official post-race party hosts up to 300 special guests.

Unlike the drivers in many other motorsport series, those in Formula E are a common sight at these events. One regular on the party scene is Bruno Senna, nephew of Formula 1 icon Ayrton Senna, and driver for the Mahindra Formula E team. He says that even off the track Formula E's core values are never far away.

"In Formula E, the hospitality and events are directed at bringing people into the experience, and learning about new technologies and sustainability," he says. It is most visible at the eVillage where sponsors' pavilions stand next to a bar with a jumbo screen for guests to watch the on-track action. "At the events, everyone can enjoy great sport during the racing with cutting-edge technologies," says Bruno.

He says his favourite gala was at Beijing because it was held in such a special place, the Imperial Temple in the



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Forbidden City. "The atmosphere was incredible because it was the first gala of the year, but the best post-race party was in Punta del Este, Uruguay. Unfortunately, testing the next day meant we couldn't stay very long. The drivers are quite engaged during the race weekends, due to our very tight schedule, but we try as much as possible to show up to eMotion hospitality and interact with fans during the autograph sessions or pit lane visiting times," he says.

Another popular personality who travels with the series and follows its social scene closely is Kelly Piquet, daughter of three-times F1 champion Nelson Piquet and sister of Formula E championship leader Nelson Piquet Jr. This sporting heritage made the Long Beach ePrix her most memorable moment in Formula E so far. "My brother had won his first Formula E race and coincidentally, 35 years before, almost to the day, my father had his first Formula 1 victory," says Kelly.

"In my opinion, Formula E has a different approach to entertainment than other series. It is interactive and grabs the attention of motorsport fans. The sport also thinks it highly important that the public and guests get to meet drivers over the weekend, whether that be through autograph sessions or lunch at the eMotion lounge.

"Special guests are also invited to the gala, as well as mingling with drivers on race day by having garage tours and hot laps in the sport's safety car. For non-racing fans, there are a lot of other things to see at the track. There is admission to the eVillage, which has different activities, sponsors' booths and our very own DJ, known as the sport's 'EJ'."

Like Bruno, Kelly says her favourite after party was at Punta del Este. "We were at a beautiful house and everyone was dressed in white. The music was unbelievable and everyone was just in such a partying mood," she says. It shows that whether on track or off, the atmosphere at a Formula E race really can be electric.



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1. Leonardo DiCaprio 2. Punta del Este ePrix

COMMERCIAL FEATURE



JULIUS BAER AND FORMULA E: A VISIONARY PARTNERSHIP

Julius Baer is the exclusive global partner of Formula E. The first season has not quite ended, but both parties are declaring the partnership a success



Marco Parroni
Co-head of marketing

Julius Bär
YOUR WEALTH MANAGER

A few motor-racing fans have asked why Julius Baer was so keen to back Formula E. After all, motor-racing was banned in the wealth manager's home of Switzerland decades ago. It isn't a technology company. So why was Julius Baer so enthusiastic about sponsoring a completely new version of racing?

Julius Baer co-head of marketing Marco Parroni explains the logic from his perspective. "We are committed to growing through sustainable wealth management practices and we also support visionary ideas," he says. "The sponsorship of Formula E, with its global reach, is the perfect platform for us to share the values we stand for, such as innovation, sustainability and a forward-looking pioneering spirit. We aim to contribute to the advancement of new technologies, in this particular case the development of sustainable means of transport."

The company's ethos seems to be a perfect match with Formula E. Founded in 1890 to focus on the demands of private clients, family offices and external asset managers, the wealth manager has long emphasised the need to explore sustainable and socially responsible investments. The tie-in gives it a unique insight into the multitude of sustainable technologies used in Formula E.

In fact, the deal was a continuation of a wider strategy of supporting emerging talent and technologies. Mr Parroni says: "In addition to Formula E, we support the younger generation with our sponsorship of the AMZ racing team of the Swiss Federal Institute of Technology (ETH) Zurich. These young engineering graduates from one of the leading universities are

developing their own electric racing car.

"We aim to promote the development of the respective technology and, at the Formula E races, we want to give these young engineers of the future a prominent platform with Formula Student, a competition for young engineers."

The sponsorship of Formula E, with its global reach, is the perfect platform for us to share the values we stand for, such as innovation, sustainability and a forward-looking pioneering spirit

Naturally, there is a measurable return on the investment. Mr Parroni speaks highly of the branding the company gets on the cars and by the race track. And the global reach is a vital factor for marketing in a broad range of territories.

He says: "Formula E races have been and will be held and broadcast in many of Julius Baer's key markets, such as Europe, Asia and Latin America. This gives us a unique opportunity to increase its general brand awareness, and invite clients and prospects to high-class events to experience future technologies first-hand. Thanks to Julius Baer's status as the global partner of Formula E, we will have exclusive

hospitality access to the race tracks."

Sponsors, of course, also want to know they are going to enjoy the whole experience. Fortunately, Julius Baer is emphatic that Formula E is evoking the right emotions.

"There were many highlights throughout the whole season," Mr Parroni recalls. "I would like to mention the first race in Beijing, which was a very emotional moment and the start of a partnership that has been very successful so far. And, of course, the first race in Europe on the historic track of Monaco. It is great to see the whole potential of the platform, the growing interest in the technology itself and how this could provide a solution for climate change."

"Also our guests responded positively. Those who could experience the events live were thrilled by the competition as well as by the concept of a new environmentally friendly racing series," he says.

There's one other great dividend. Mr Parroni says: "I also fondly remember the Swiss Council of States' decision to pave the way for a Formula E ePrix in Julius Baer's home market of Switzerland." The ban is gone thanks to the environmental ambition of Formula E, enabling a race to take place in coming seasons.

Overall, the partnership has been a resounding success for both Julius Baer and Formula E. Mr Parroni, for one, is looking to the longer term: "I am very much looking forward to the last two races in London, with the final on Sunday – and then on to seasons to come," he says.

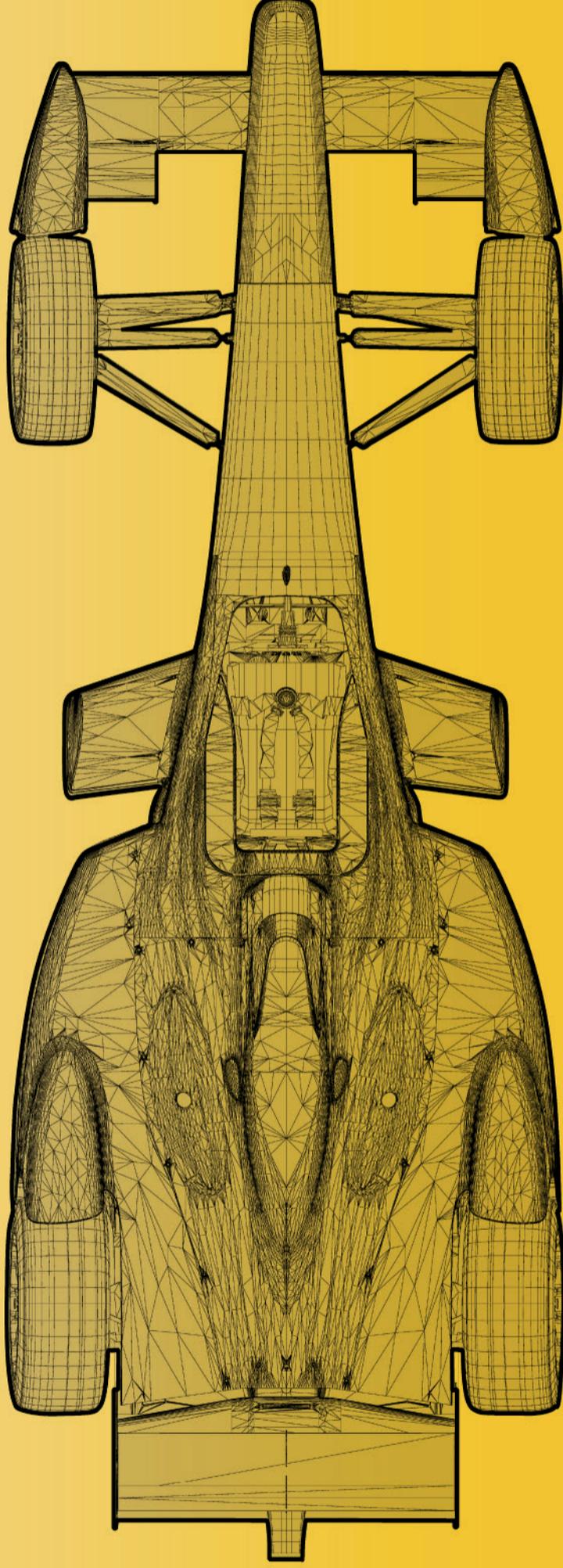
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