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INTERNATIONAL JOURNAL OF THE FIA

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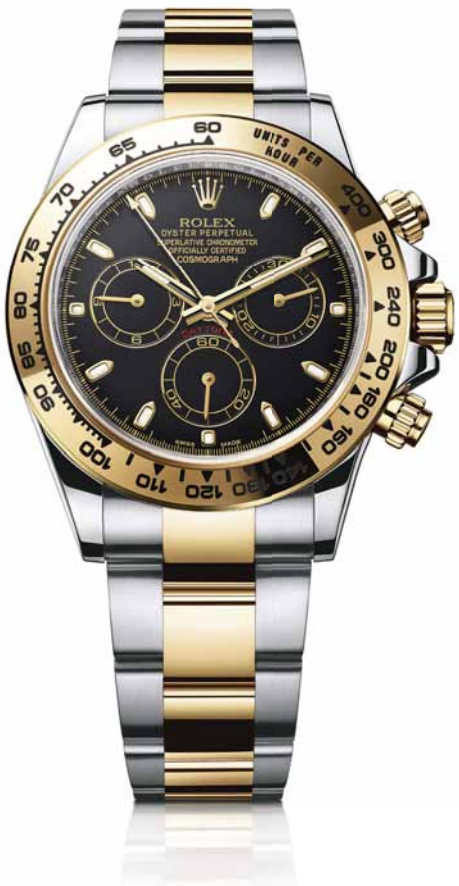
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THE FIA

The Fédération Internationale de l'Automobile is the governing body of world motor sport and the federation of the world's leading motoring organisations. Founded in 1904, it brings together 236 national motoring and sporting organisations from more than 135 countries, representing millions of motorists worldwide. In motor sport, it administers the rules and regulations for all international four-wheel sport, including the FIA Formula One World Championship and FIA World Rally Championship.

THE FIA FOUNDATION

The FIA Foundation is an independent UK-registered charity that supports an international programme of activities promoting road safety, the environment and sustainable mobility. It was established in 2001 with a donation of \$300 million from the FIA and is governed by a Board of Trustees. Among its activities, the Foundation participates in various UN road safety and environment-related partnerships and is a member of the UN Global Road Safety Collaboration.

THE GLOBAL INSTITUTE

The Global Institute for Motor Sport Safety is an international organisation based in Switzerland that undertakes research to improve motor sport safety worldwide. As the safety research partner of the FIA, it conducts practical research at all levels of motor sport, from professional categories to grassroots racing. It aims to provide motor sport with the means to operate as safely as possible, and to use safety research for the benefit of public roads and society in general.

Dear reader,

The end-of-year edition of AUTO is always special because its publication coincides with the period in which the FIA holds its ANNUAL GENERAL ASSEMBLY and its PRIZE GIVING ceremony, where all the FIA champions receive their awards and, as you can see, this is the occasion referenced on the cover of the magazine.

This time, its appearance is even more propitious as it coincides with the end of a four-year period of governance and the time to choose a President to lead our organisation for the next cycle. I am honoured and proud that this great family of ours has chosen me to serve a third consecutive term. I want to once again thank all the members of the FIA's Member Clubs for their support. I see this as a validation of the direction the FIA has taken under my leadership, and as encouragement to continue the programme we have pursued over the past eight years.

AUTO's series of in-depth interviews with major players in the automotive world continues in this issue as we talk to two people who have taken their company to the very top of this industry: LI SHUFU has turned Geely into the symbol of the Chinese auto industry, while ALBERTO BOMBASSEI has placed Italian brake company Brembo at the technological cutting edge in motor sport and in the world of road cars.

Over the past two years, diesel power has been a very tricky topic, causing confusion and concern among motorists. But what exactly is the future of a technology that, for 20 years, had grown so relentlessly? AUTO asks several experts in the field to clear up one of motoring's biggest debates.

The past and the future are woven together through the pages of this magazine. You can read an interview with ALEJANDRO AGAG, the promotor of the FIA Formula E Championship, and with talented young racing driver LANDO NORRIS, while also finding a retrospective look at one of the legends of rallying, WALTER RÖHRL. There is also a feature on one of the most storied race tracks in the USA, namely SEBRING. As for the section dedicated to our clubs, this time we look at NORWAY. There's plenty more besides. I hope you like it and, as usual, if you have any ideas or suggestions on how we can improve the magazine, we would love to hear from you.

Enjoy the read and happy 2018!



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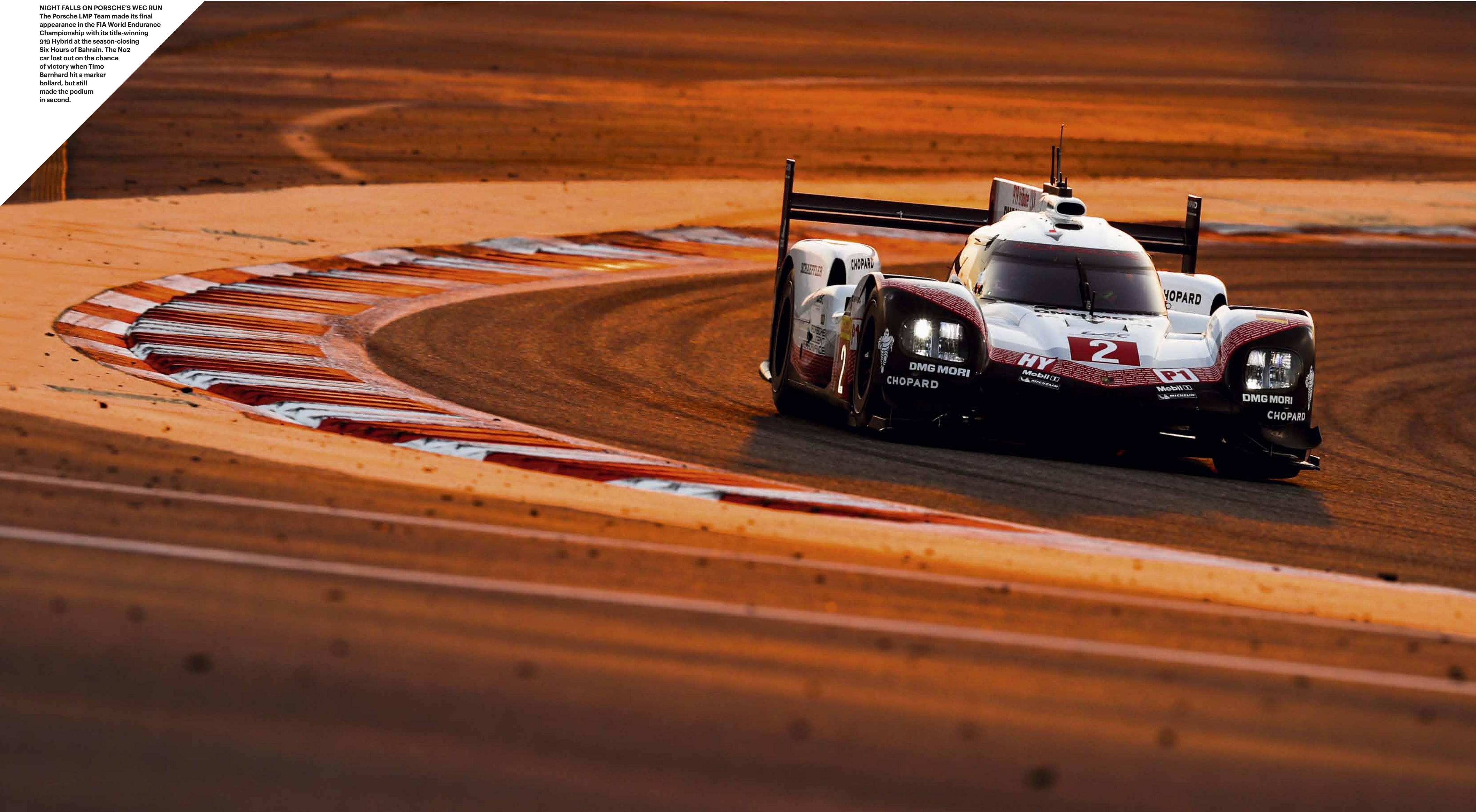
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Felipe Massa on his second retirement from Formula One his new role in karting

WEC, SIX HOURS OF SAUDI ARABIA
PORSCHÉ'S
LAST HURRAH

The sun has set on Porsche's FIA World Endurance Championship adventure after almost half a decade of successful competition, with the German manufacturer claiming second and third places in the final race of the 2017 season, the Six Hours of Bahrain. The championship-winning No2 Porsche 919 Hybrid of Timo Bernhard, Brendon Hartley

and Earl Bamber came second to the Toyota Gazoo Racing hybrid of Sébastien Buemi, Anthony Davidson and Kazuki Nakajima, with the No1 Porsche driven by Neel Jani, André Lotterer and Nick Tandy rounding out the podium. Team Principal Andreas Seidl said he was sad but grateful to have been "part of this chapter of Porsche motor sport history".

NIGHT FALLS ON PORSCHÉ'S WEC RUN
The Porsche LMP Team made its final appearance in the FIA World Endurance Championship with its title-winning 919 Hybrid at the season-closing Six Hours of Bahrain. The No2 car lost out on the chance of victory when Timo Bernhard hit a marker bollard, but still made the podium in second.





The FIA family pictured at the close of the federation's AGA in Paris in December.

01

Jean Todt elected to third term as FIA President

After receiving unanimous backing, President Todt outlines his aims for a final four years in office, during which he wants to focus on innovation, advocacy and developing a strong network of clubs

Jean Todt was re-elected as President of the Fédération Internationale de l'Automobile (FIA) at the organisation's General Assembly in Paris in early December. Standing unopposed, Mr Todt was handed a third term in office unanimously by acclamation and by a show of hands. The new mandate will see him continue to develop the global federation of motor sport and mobility organisations until the end of 2021.

Speaking after accepting the President's role, Mr Todt said: "It is gratifying to have such universal support. I would like to thank all of the Member Clubs of the FIA for their support. I see this as a validation of the direction the FIA has taken under my leadership, and as encouragement to continue the programme we have pursued over the past eight years."

Looking back at his first two terms in office, President Todt added: "When I was first elected, the goal I set myself was to oversee continual improvement within the federation. ▶

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Reshaping the administration /

The FIA's Annual General Assembly was not just about electing a president for the next four years. The federation also voted on the membership of both its World Councils – Automobile Mobility and Tourism and Sport – and the make-up of the its Sporting Commissions. Below is a list of some of the key appointments made:

FIA PRESIDENT AND PRESIDENTIAL LIST

FIA President Jean Todt was unanimously elected for a third four-year term by the Members of the General Assembly. The positions of President of the Senate, Deputy President for Mobility, Deputy President and Vice-Presidents for Sport were also adopted as part of the Presidential List:

President of the Senate
Brian Gibbons (NZAA, New Zealand)

Deputy President, Sport
Graham Stoker (MSA, United Kingdom)

Deputy President, Mobility
Thierry Willemarck (TCB, Belgium)

VICE-PRESIDENTS FOR SPORT

Middle East
Mohammed Ben Sulayem (ACT, UAE)

Africa
Surinder Thatthi (FISA, Ivory Coast)

North America
José Abed (OMDAI, Mexico)

South America
Carlos Garcia Remohi (ACA, Argentina)

Asia-Pacific
Heping Wan (CAMF, China)

Europe
Angelo Sticchi Damiani (ACI, Italy)

Europe
Hermann Tomczyk (DMSB, Germany)

FIA SENATE

Brian GIBBONS (NZL) President of the Senate
Jean TODT (FRA) President of the FIA
Graham STOKER (GBR) Deputy President of the FIA (Sport)
Thierry WILLEMARCK (BEL) Deputy President of the FIA (Mobility)

MEMBERS
HRH Prince Faisal AL HUSSEIN (JOR) (S)
Irina BOKOVA (BGR) (M)
August MARKL (DEU) (M)
Jorge ROSALES (ARG) (M)
Timothy SHEARMAN (CAN) (M)
Carlos SLIM DOMIT (MEX) (S)
Maria Angela ZAPPIA (ITA) (S)
Guojun ZHAN (CHN) (S)
Gerardo BRAGGIOTTI (ITA)
Jean-Michel DARROIS (FRA)
Jacques AUDIBERT (FRA)
William E. CONNOR (USA)

WORLD COUNCIL FOR AUTOMOBILE

MOBILITY AND TOURISM

Region I President
Thomas Möller Thomsen (FDM, Denmark)

Region II President
Mike Noon (NZAA, New Zealand)

Region III President
Tim Shearman (CAA, Canada)

Region IV President
Jorge Tomasi Crisci (ACU, Uruguay)

The following members were elected to the World Council for Automobile Mobility and Tourism (WCAMT) by the General Assembly:

Gottfried Wanitschek – ÖAMTC, Austria (Region I)
Oldrich Vanicek – UAMK, Czech Republic (Region I)
August Markl – ADAC, Germany (Region I)
Giuseppe Redaelli – ACI, Italy (Region I)
Frits van Bruggen – ANWB, Netherlands (Region I)
Mirko Butulija – AMSS, Serbia (Region I)
Jorge F. Delgado Mendoza – RACE, Spain (Region I)
Peter Goetschi – TCS, Switzerland (Region I)
Nigel Alexander – AAA, Australia (Region II)
Afsar Hossain – AAB, Bangladesh (Region II)
Takayoshi Yashiro – JAF, Japan (Region II)
Bernard Tay – AAS, Singapore (Region II)
Dhammika Attygalle – ACC, Sri Lanka (Region II)
Julien José Abed – ANA, Mexico (Region III)
Earl Jarrett – JAA, Jamaica (Region III)
Alejandro Quintana Hurtado – ACCHI, Chile (Region IV)
Ricardo Morales Rubio – ACC, Colombia (Region IV)
Gorki Obando – ANETA, Mexico (Region IV)

WORLD MOTOR SPORT COUNCIL

The following members were elected to the World Motor Sport Council (WMSC) by the General Assembly, joining the Deputy President and seven Vice-Presidents for Sport:

Manuel Avino – RFEDA, Spain
Garry Connelly – CAMS, Australia
François Cornelis – RACB, Belgium
Dennis Dean – ACCUS, United States of America
Nicolas Deschaux – FFSA, France
Michel Ferry – ACM, Monaco
Zrinko Gregurek – CCCF, Croatia
Victor Kiryanov – RAF, Russia
Hugo Mersan – TACP, Paraguay
Koichi Murata – JAF, Japan
Juhani Pakari – AKK-Motorsport, Finland
Gautam Singhania – FMSCI, India
Vincenzo Spano – TACV, Venezuela
Serkan Yazici – TOSFED, Turkey

MANUFACTURERS' COMMISSION
President
François Fillon, France

ENVIRONMENT AND SUSTAINABILITY COMMISSION
President
Felipe Calderón, Mexico

DISABILITY AND ACCESSIBILITY COMMISSION
President
Nathalie McGloin, United Kingdom

‘Our federation must strive to be the best it can – stronger, smarter, more secure, more professional and globally respected’



President Todt will continue to campaign for improvements in international road safety during his third term. Below: speaking at the AGA.

Over President Todt's first two terms advocacy across a range of issues, including road safety and sustainable mobility, has become a key area of endeavour for both the FIA and its Member Clubs, and following the vote he emphasised the need to further strengthen the federation's efforts to reduce road fatalities, and help shape the future of clean and accessible mobility for all.

"The FIA has made significant progress globally and is now recognised by world bodies, governments and fellow NGOs as a reliable and relevant voice on the international stage," he said.

"Road safety continues to be a major focus through the work of the FIA High-Level Panel for Road Safety, the support of the FIA Foundation and its Chairman, Lord Robertson, and through the #3500Lives campaign launched worldwide earlier this year. I am pleased to confirm that this campaign will continue to have a global presence in 2018 in order to help achieve the goal of reducing road trauma. Additionally, during this term a new set of FIA Road Safety Awards will be instigated to recognise outstanding contributions to achieving real progress in international road safety outcomes."

NEXT GENERATION MOBILITY

Turning to the future of mobility, President Todt stressed the need for the federation to foster the growth and influence of its Member Clubs in defining the next generation of transportation systems.

"To be a truly successful global organisation, the FIA needs a skilled worldwide network of sport and mobility clubs that are strong, influential and respected in their individual countries.

"Our clubs are the largest consumer organisations in their country and their 80 million road-user members make the FIA one of the largest global consumer bodies. This is important because while the future of mobility is exciting, it also holds many challenges, and it is our duty to help shape it.

"We will have to deal with increased congestion in all our major cities, with the introduction of autonomous vehicles, the growing cost of mobility and with the development of new technologies in developed countries. We need to influence the direction these developments take in order to ensure acceptable outcomes for all.

"My ambition remains for our federation to continue to strive to be the best it possibly can – stronger, smarter, more secure, more professional and globally respected."

NEW STRUCTURE

President Todt's re-election also confirms a restructured team at the helm of the FIA. After eight years as President of the FIA Senate – the body with oversight of the management and finances of the federation – America's Nick Craw steps down from the role. He will be replaced by New Zealand's Brian Gibbons, who has acted as FIA Deputy President for Mobility since 2009. That role will now be filled by Belgium's Thierry Willemarck, who moves from his position as President of Region I of the FIA. Graham Stoker continues as Deputy President for Sport, a post he has held since 2009.

"I have encouraged the selection of a leadership team that is a mixture of the experienced and the new," said President Todt. "The experienced will ensure we continue to respect our heritage, uphold our values and avoid the pitfalls of the past. The new faces will bring fresh, innovative thinking to our federation. I am particularly pleased that a number of talented women have been nominated by our clubs for important positions. I hope it will lead the FIA to embrace greater diversity and recognise and reward talent wherever it exists." 4



Getting down to business: the meeting of the World Council for Automobile Mobility and Tourism.



Felipe Massa and Michelle Yeoh look on as Jean Todt presents Jean Charles Decaux with the 2017 President's Award, Mobility.

Taking action and crowning champions

The week of the FIA's Annual General Assembly encompasses two very different activities – defining future plans for the federation and then celebrating the competitive year just past by awarding champions from across the motor sport landscape.

The business end of the week saw not only Jean Todt elected for a third term as president but also meetings of the FIA's World Councils – in Sport to reframe rules governing top-level sports car and touring car racing, and in Mobility to adopt a new strategy for the coming years.

The week was closed by the FIA's glittering Prize Giving ceremony at which motor sport's champions, including four-time F1 winner Lewis Hamilton and five-time rally champion Sébastien Ogier, were crowned in the suitably regal surrounds of Paris' incredible Palais de Versailles.



FIA winners: Sébastien Ogier, his wife Andrea Kaiser, Lewis Hamilton, and Susie and Toto Wolff.



WEC LMP1 champions (l-r) Timo Bernhard, Brendon Hartley, and Earl Bamber.



Lord Robertson of Port Ellen speaks at the Annual General Meeting of the FIA Foundation in Paris.

Anywhere
there's
motorsport.



01

NEWS

In this issue: Lamborghini reveals plans for first electric 'self-healing' hypercar; Formula One unveils new brand logo; FIA honours F1 champions in new Hall of Fame; FIA and member clubs' tribute to road traffic victims; campaign targets safer new cars for Africa; FIA president hails advances at ADAC Technical Centre

Lamborghini has set its sights on an electric future with the Terzo Millennio concept.

NEWS Lamborghini plans electric future with 'self-healing' hypercar

Lamborghini has unveiled details of a collaborative project for its first all-electric, autonomous and 'self-healing' hypercar.

Working in conjunction with the Massachusetts Institute of Technology (MIT) in the US, the Italian car maker – best-known for its high-octane sports cars – has christened the new concept the Lamborghini Terzo Millennio, meaning third millennium.

"Exactly one year ago we signed an agreement with the MIT-Italy Program at the Massachusetts Institute of Technology, which marked the start of a collaboration between two outstanding entities for the creation of a project that intends to write an important page in the future of super sports cars for the third millennium," said Stefano Domenicali, Chairman and Chief Executive Officer of Automobili Lamborghini.

"Collaborating with MIT for our R&D department is an exceptional opportunity to do what Lamborghini has always been very good at: rewriting the rules on super sports cars."

The concept hypercar would feature supercapacitors for energy storage and an electric engine in each wheel. A carbonfibre bodyshell would act as an accumulator for energy storage and enable the complete body of the car to be used as a storage system.

The project also aims to combine technology to continuously monitor the carbonfibre structure with the concept of 'self-healing': the target is to provide the Terzo Millennio with the ability to conduct its own health monitoring to detect cracks and damages in its substructure derived from accidents. A self-repairing process would then start via micro-channels filled with healing chemistries, eliminating the risk of small cracks propagating further into the structure.



NEWS

Global
NCAP and
AA South
Africa
launch test
programme

Some of South Africa's most popular new cars do not provide basic protection for passengers – that was the finding of the first independent African crash tests revealed at the Global NCAP and AA South Africa launch of #SaferCarsforAfrica.

Co-funded by the FIA Foundation, the tests revealed a wide range of safety capabilities. The lowest-ranking car received a 'zero stars' rating, indicating a high probability of life-threatening injury in an accident for both adult and child, while others received ratings of up to four stars. Combined sales of the five cars tested account for 65 per cent of all new cars sold in South Africa during 2016.

The results are set against a 10-year high of road fatalities in South Africa, with 14,071 people killed in 2016. Sub-Saharan Africa has the highest road injury rate in the world despite relatively low motorisation, while globally road traffic injuries are the leading cause of death among young people aged 15-29 years.

Saul Billingsley, Executive Director of the FIA Foundation, said: "These first car crash tests in Africa are a safety milestone, which the FIA Foundation is proud to support. The results show that consumers have a real choice and with access to the right information they can use purchasing power to reward car makers who put safety first. If we are to achieve the UN development goal to halve global road deaths, safer cars for Africa must be a priority."

Tested cars at the November launch of Global NCAP and AA South Africa's #SaferCarsforAfrica initiative in Cape Town.



NEWS

FIA community joins forces to
honour world's road traffic victims



Drivers from the FIA World Endurance Championship showed their support for WDR at the final round of the 2017 season in Bahrain.

The FIA and its 245 member clubs supported the World Day of Remembrance for Road Traffic Victims (WDR) in November along the theme of '2020 target: reduce road fatalities and serious injuries by 50 per cent'.

Created in 1995 by the European Federation of Road Traffic Victims and endorsed by the United

Nations in 2005, WDR honours the millions of people who have been killed or injured on the world's roads. It also pays tribute to the emergency crews, police and medical professionals who deal with the aftermath of road death and injury.

FIA President Jean Todt, who serves as the UN Secretary-General's Special Envoy for Road Safety, said: "On the occasion of WDR, I'd like you to think about the 1.25 million lives lost on the world's roads every year. I strongly encourage governments, the private sector and citizens to make road safety a priority if we want to reach the UN Sustainable Development Goals."

FIA series including the World Rally Championship, World Endurance Championship, World Touring Car Championship, FIA GT and F3 World Cups supported WDR by organising family pictures with their drivers in Australia, Bahrain and Macau.

NEWS

Declaration calls
for action on child
health and safety

Global action is required to protect children from toxic air and unsafe streets, according to participants at the Every Journey, Every Child conference held recently at London City Hall.

Mayor of London Sadiq Khan and the Mayor of Accra Mohammed Adjei Sowah joined with international agencies and experts in agreeing that more must be done to prevent the needless deaths of thousands of children worldwide.

As a result, the Child Health Initiative (CHI), convened by the FIA Foundation, issued the 'Declaration of Every Child's Right to Safe and Healthy Streets'. The declaration calls for global leaders to commit to ensuring children are not breathing polluted air, and to providing a safe and healthy journey to school for every child.

Mayor Khan commended the FIA Foundation for organising the event and added: "Air pollution and climate change transcend national borders and city boundaries. In this interconnected world, the fates of cities like London and Accra are intertwined and the only way to respond to these global problems is with global solutions."

Lord Robertson, Chairman of the FIA Foundation, said: "We are facing a global public health emergency for our children. It's taking place right in front of us, on our streets. The FIA Foundation urges every city to take action to tackle the twin epidemics of road traffic injury and air pollution."

The FIA Foundation has also revealed that



Zoleka Mandela, Sadiq Khan and The Rt Hon. Lord Robertson of Port Ellen with pupils from Townsend Primary School in Southwark, London.

in London the city's most deprived children attend schools that are most affected by poor air quality. A report by air quality analyst Aether shows that these children are more likely to walk and less likely to use a car, and are thus more exposed to pollutants. More than 85 per cent of the schools affected most by poor air quality have pupils from the most deprived catchments, and children at the schools with the poorest air quality were found to be walking to school more than the London average.

Saul Billingsley, FIA Foundation Executive Director, said: "In funding this research and raising awareness of these issues in London, we hope to stimulate action here and in other cities to help tackle air pollution for the two billion children who live in areas where outdoor pollution exceeds international limits. Every child has the right to a safe and healthy journey to school."



ADAC President August Markl, UNECE Executive Secretary Olga Algayerova, actor and UNDP Goodwill Ambassador Michelle Yeoh and FIA President Jean Todt at the ADAC Technical Centre in Landsberg, Germany.

a vehicle produces in the real world. ADAC testing has shown this is a gap that is growing: this is because as regulations have become more stringent, car makers have optimised vehicle performance to pass laboratory tests with no requirement for this to translate into real-world driving. As a result, rather than driving down emissions and fuel bills, more stringent emissions laws appear not to deliver their promised environmental benefits. Therefore ADAC has aided in the development of a Green NCAP initiative by which existing vehicle ratings on safety will be completed with a stringent environmental rating.

"With its long-standing expertise in testing, ADAC supports the Green NCAP consumer rights initiative aimed at determining real exhaust gas emissions and fuel consumption levels," said Dr Reinhard Kolke, head of the ADAC Technical Centre. "With its independent and high-quality assessments, this ecological initiative will provide excellent support in the development of new alternative drive technologies."

Acknowledging the leading role of the ADAC in the field of car testing and consumer protection, President Todt said: "ADAC is a key partner for the FIA. It is one of the largest individual member organisations in our federation with more than 20 million members. The ADAC Technical Centre is a world-class safety and emissions testing facility that supports stronger advocacy in the interests of consumers, not only in Germany but throughout Europe."

Ms Algayerova added: "Measuring vehicle safety performance demonstrates once more the importance of introducing common safety standards across the globe. Thousands of deaths and hundreds of thousands of injuries could be avoided each year if all countries applied the safety standards outlined in the UN Regulations, developed by the World Forum for Harmonization of Vehicle Regulations and hosted by the UNECE.

"These legal instruments and regulations have a proven track record of reducing mortality and serious injury wherever they are applied," she concluded. "All new motor vehicles should meet minimum regulations for occupant and other road user protection, with seat belts, air bags and active safety systems fitted as standard."

ADAC's Dr Markl said: "The independent consumer rights activities of ADAC are exceptionally well-suited to establish the bases for the further development of UNECE regulations. We are very proud of the fact that the Executive Secretary of the UNECE and the FIA President have seized the opportunity of the exchange at the ADAC Technik Zentrum to gain their own insights into consumer protection work in the area of ecology and road safety."

NEWS

ADAC technical
centre sets
highest test
standards

FIA President Jean Todt has visited the Technical Centre of the Allgemeiner Deutscher Automobil-Club (ADAC) in Landsberg, Germany, in order to discuss a number of issues related to consumer protection.

With him on the recent trip were UNECE Executive Secretary Olga Algayerova, ADAC President August Markl and actor, producer and UNDP Goodwill Ambassador Michelle Yeoh.

ADAC, the second largest automobile club in the world, established its Technical Centre in order to help ensure road users' safety and today acts as one of the main test centres for European member clubs of the FIA.

The centre is also an accredited test lab for Euro NCAP, and the main facility for crash tests organised in the framework of the Global NCAP and the Latin NCAP programmes, all of which assess the safety of new cars. Committed to improving consumer protection and with a focus on product improvement, the ADAC has no commercial interest in tested products and so ensures the neutrality of its publications.

During their visit to the centre President Todt, Ms Algayerova, Mr Markl and Ms Yeoh had the opportunity to assist with some of the tests and evaluations performed at the facility. These include crash tests and car reviews or product tests, the results of which aim to help consumers make informed purchasing decisions and to better ensure their safety.

ADAC engineers have been testing and evaluating cars, components, accessories, motorcycles and bicycles as well as camping vehicles in specially developed procedures since 1997. Every year, 70 crash tests are performed and 150 cars evaluated on the basis of more than 300 criteria – with the aim of assisting consumers in their purchase decisions.

A second important area of testing looks at vehicle emissions. Compliance with stricter emission requirements and growing consumer interest in 'green' cars have become the greatest challenge for manufacturers and suppliers as well as for ADAC as a consumer advocate. In Landsberg, ADAC has been testing cars for their emissions and fuel efficiency in order to raise consumer awareness of the most eco-friendly vehicles on the market.

Similar programmes quantify the difference between the stated results from standard laboratory testing and the actual emissions that



Dr Reinhard Kolke, head of the ADAC Technical Centre.

ADAC has helped develop a Green NCAP test that will be added to safety ratings.

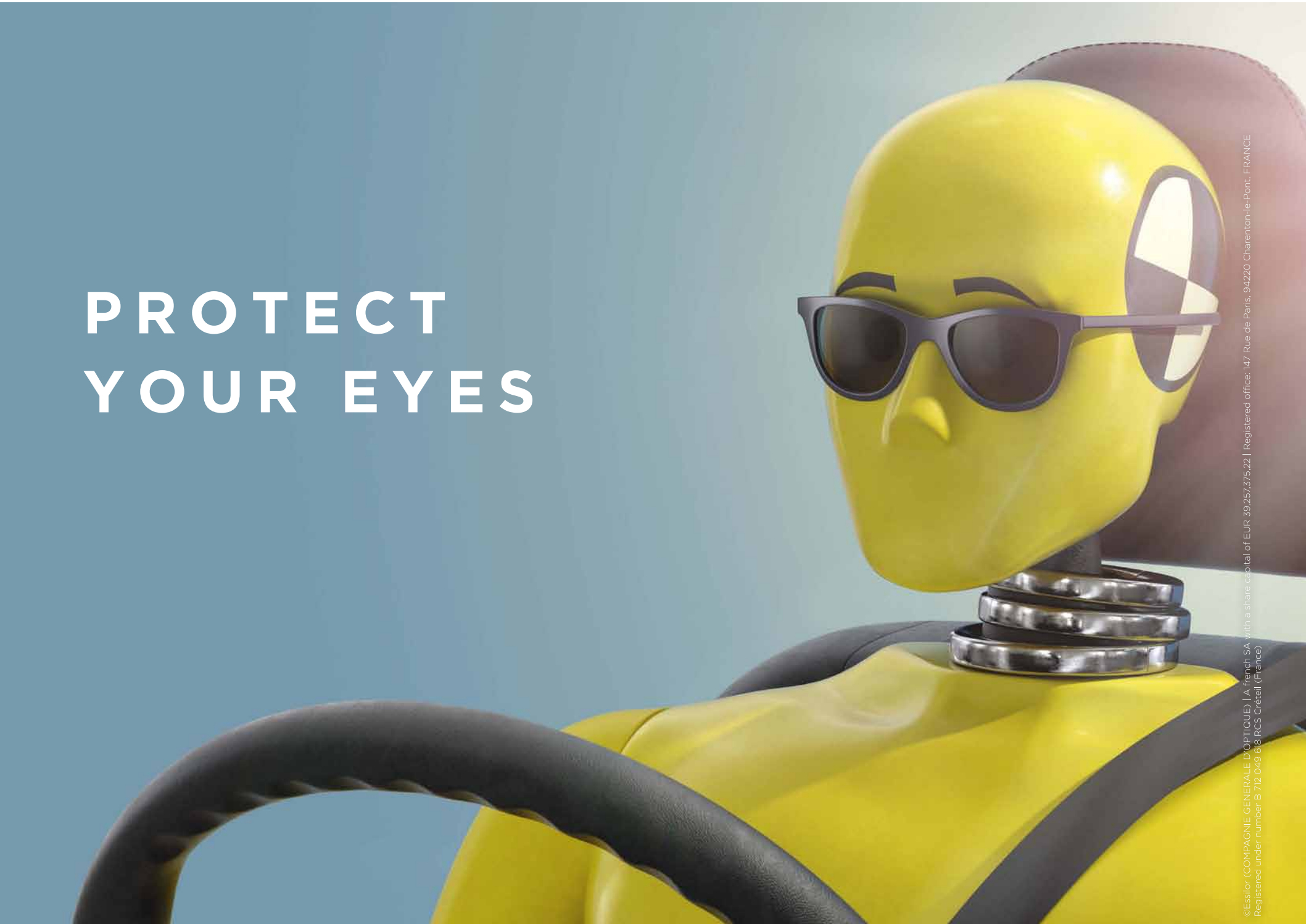


ROAD SAFETY STARTS WITH GOOD VISION

CHECK
YOUR VISION

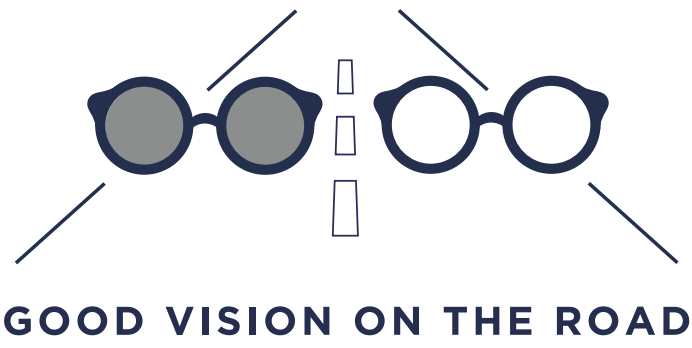


PROTECT
YOUR EYES



**VISION IS THE MOST IMPORTANT
ON THE ROAD.**
THE FIA AND ESSILOR SIGNED A 3
GOOD VISION AS A KEY PILLAR OF
WEAR APPROPRIATE GLASSES ON

SENSE TO MAKE DECISIONS
YEAR PARTNERSHIP TO PROMOTE
ROAD SAFETY.
THE ROAD.



QUESTION:

WHERE DOES THE FUTURE OF ENDURANCE RACING LIE?

With the FIA World Endurance Championship down to one manufacturer in its top LMP1 category, is the series in crisis, or, as costs rise, is this the adjustment sports car racing needs? Three experts give us their opinion on where the FIA WEC heads next

02

ANDRÉ LOTTERER THREE-TIME LE MANS WINNER

I think there will always be a future for the FIA World Endurance Championship because it's endurance racing, and the teams and manufacturers will always push the limits to drive for as long and fast as possible over a certain period of time. This will continue to be the case, especially with the Le Mans 24 Hours, which defines this category and where you can create milestones.

At the moment there is a bit of a shift with manufacturers going into Formula E and the automobile industry going electric, but it will always have quite an important place in the car industry and in motor sport most of all, and it will be interesting to see how the future goes.

It would be a shame if that changed but the promoters of WEC are talking about hyper-cars and I believe that would be an interesting, road-relevant plan for the race to combine both worlds and keep this category with impressive and prestigious cars, like it always has been.

Next season could be a transitional year to build something stronger for the future. But I don't think it's something that has gone wrong. It's just the decisions of Audi and Porsche to go somewhere else and do other stuff.

You can argue that it's expensive, but they wanted all that technology. Porsche, Toyota and Audi always got together, their working groups: they want this, this and this technology.

It was really special with three manufacturers putting in so much budget and enthusiasm in those cars and building them from A to Z.

It requires a lot of resources and people, because most teams have between 250 and 350 people working on it so it's a beautiful operation when you think about the sport and all of the engineers enjoying themselves. Everything was



André Lotterer

great, and on top of that the cars were super-fast and the battles were great.

I think it's going to be a racing era that we will always speak about, a bit like Group C back in the day, that everyone loved. That will always remain and I'm pretty proud that I was there from the beginning.

But we all know that things change a bit in the automotive industry and things are going electric.

The championship's ability to continue to attract the world's best drivers will depend on the level of the teams and amount of manufacturers involved in the series, as with any racing category. However, there are of course exceptions like Le Mans, which will always attract top drivers regardless of what happens elsewhere.

I think the championship is good and I'm sure they will have a good plan for the future.

BRENDON HARTLEY TWO-TIME WORLD ENDURANCE CHAMPION

I'm sure there are more qualified people than a driver to talk about the future of the World Endurance Championship, but I personally think the series will prosper again and that sometimes change is good, that it can bring something new and exciting.

I had an incredible four years at Porsche and more broadly than that there were some golden years with Audi, Toyota and Porsche, and we had some amazing battles at Le Mans and in the WEC in some amazing cars. The technology, the speed, was wonderful and I feel privileged to have driven in that era of the championship.

It's sad that this era has come to an end but at the same time I don't see that it is the end of the WEC by any stretch of the imagination. First of all, Le Mans has so much history, it's such a big event and it has so much attraction for people.

For the championship, GT is super-strong with manufacturers, there's BMW coming next year and there are other manufacturers lining up. Yes, the LMP1 category as we know it is coming to an end, and while I'm not in the circles to know the answers I know from experience in the US that sports car racing there is thriving. We talk about LMP1, the budgets were very high and the cars were complicated and Audi pulling out started this chain of events, but actually sports car racing and prototype racing in general is very healthy, and I don't see any reason why that won't be the case whatever LMP1 becomes.

With regard to the idea that non-hybrid LMP1 cars will have a balance of performance advantage to make them competitive with existing LMP1 cars, it's working in IMSA but I want to be careful here as I'm not sure what's on the horizon. When you have to cut costs then you have to do something.

I do think that the idea of having Le Mans at the end of the season is interesting. It's double points, it's a grand finale and it has been spoken

about for a long time. We all agree that to have Le Mans at the season's end as a big spectacle is interesting and would attract the public.

But it's hard for me to look that far ahead. At the end of the day, I'm just the carbon-based space behind the wheel! However, I am 100 per cent sure that despite the setbacks endurance racing is strong enough to bounce back. I know the passion for Le Mans. There is huge support from GT manufacturers and if they adjust the rules in the right way I'm sure it will succeed. Sports car racing is thriving, so despite the manufacturers leaving LMP1, it will bounce back.

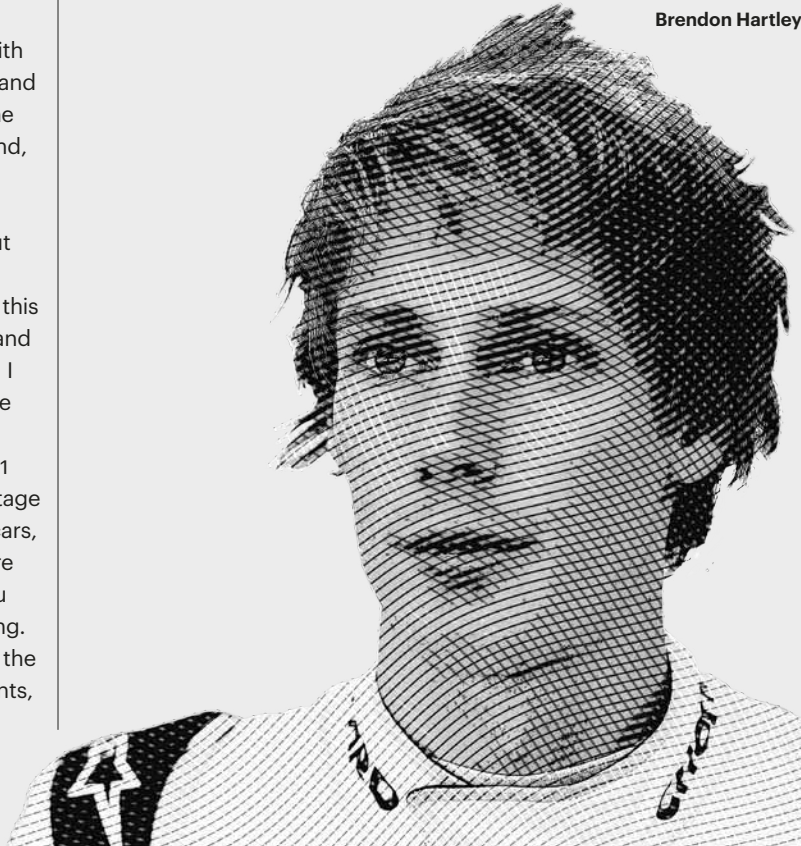
JOHN BOOTH TEAM PRINCIPAL, MANOR WEC TEAM

The future for the World Endurance Championship is very bright. The reason for my confidence is that the two key success factors that lie at the heart of the series are not diminishing, but instead are growing from strength to strength. They are the passion of the fans and the quality of the racing.

You only have to go to Le Mans in June to see the passion and dedication of the hundreds of thousands of fans who attend the race. They are fanatical and they love their racing. It has always struck me how WEC has focused on the fans and rightly so, with initiatives like fan zones, open paddocks, pit walks, grid walks and so on.

A championship that forgets the fans is a championship that will go into decline and I am happy to say that we race in front of a growing number of fans who really enjoy the whole show.

The second key attribute is the quality of the racing. After some 72 hours of racing this year, the LMP2 championship was decided by a handful of seconds. Each six-hour race contained 4,000-5,000 overtaking manoeuvres, not always for



Brendon Hartley



John Booth

position but always requiring the skill of both drivers involved. The series offers very close racing with drivers of exceptional talent and car crews that present themselves for the ultimate challenge in motor sport. It truly is a test for any group of professional racers.

Much has been said of manufacturers leaving the WEC, firstly Audi and then more recently Porsche (although in reality, Porsche are still there in GT PRO as are Ferrari, Aston Martin and now BMW). This is nothing new. It's important to realise that car manufacturers make cars, that is their core business, and racing teams go and race, that is our core business.

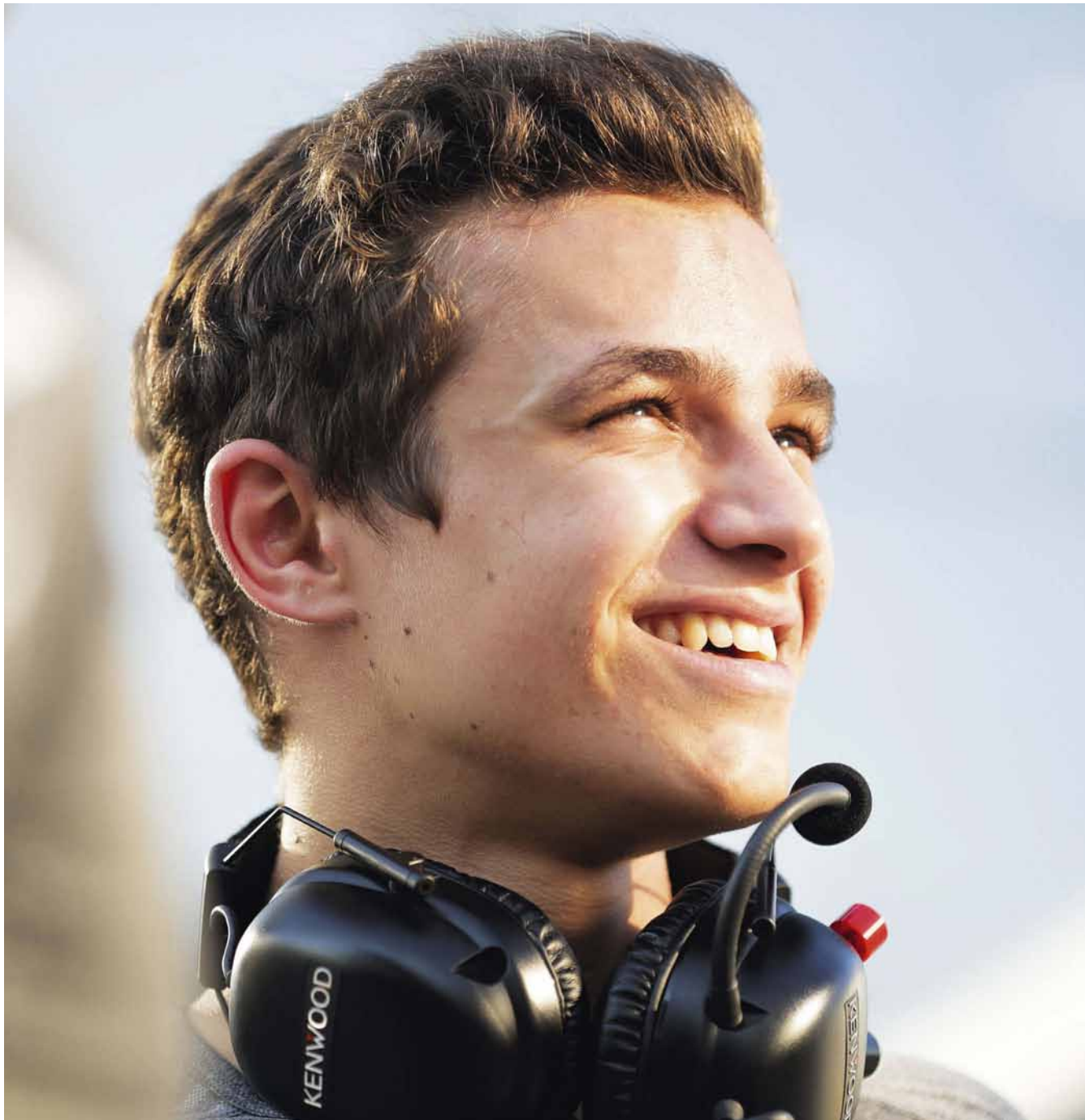
Manufacturers will always come and go, we have seen it so many times, and it's not a reflection on the championship but rather on the marketing values of the car manufacturer themselves at that point in time, no more and no less. Manufacturers can bring a lot to a championship in terms of marketing resources, but they can never bring loyalty because it is not their core business. They have shareholders to answer to and they expect them to stick to their core business.

We on the other hand have different priorities. Our business exists solely to race. I believe that the loss of some manufacturers in LMP is not necessarily a bad thing – it allows independent teams to strengthen their fan base and that adds to the rich history of the sport. Over the years, teams like Ecurie Ecosse and Pescarolo Sport have provided fans with exciting racing and a die-hard commitment to compete. I hope that we continue to do the same and I can't wait to see our cars racing again in front of some of the most knowledgeable, fanatical and dedicated motor racing fans in the world.

03

On the fast track

TEXT
/
JUSTIN HYNES



Fresh from becoming the youngest FIA Formula 3 European champion of all time, 18-year-old *Lando Norris*’ already accelerated trajectory to the top is about to go into overdrive as he prepares for a frontline role with McLaren in F1, a season of Formula 2 and, first, a drive alongside two-time F1 champion Fernando Alonso at the famed Daytona 24 Hours race

Tell us where your passion for racing came from?

My dad was into motor sport. He tried racing when he was younger, but couldn’t afford to do it, so he did cycling. So maybe I had a vision of motor sport when I was young, but nothing serious. I used to watch MotoGP and some Formula One, but I wasn’t really brought up around racing. When I was about six I got a motocross bike, because I was quite into motorbikes watching MotoGP and my hero at the time was Valentino Rossi. That’s my first memory of racing. For my seventh birthday I got a Bambino go-kart and drove around at home and that’s where the four-wheel hobby started.

You had solid success in junior karting but in 2013 it all began to click. You won almost everything you entered and the following season became the youngest-ever World Karting champion. Was there something that happened during that year?

The biggest change for 2013 was I made the move to Europe and racing there, and we joined the top team in European racing and it suited me much more. In the colder conditions in England, sometimes I found it a bit harder being a smaller driver. But moving to Europe I had a much better feeling for the tyre grip and everything just clicked. There was a point where I could really learn for myself, try and get the most out of what I could do and, yes, it obviously paid off in the results I got that season. It was just a few things put together and I really felt confident going into that year.

After you won the World Karting title you attended that year’s FIA prize-giving in Qatar. Did being in the company of drivers such as Lewis Hamilton make it feel like the dream was within touching distance?

When you’re young it’s obviously really cool to see some of the F1 drivers. Yeah, you do feel like you’re kind of on the ladder. It’s hard to say whether I really felt connected to F1 at that point because I was coming from karting, and the cars are very different. I felt more connected when I did British F4 and went to the FIA prize-giving for winning that. That really gave me a confidence boost, the realisation that not a lot of people that can win that championship. Then seeing F1 drivers when you’re also racing single-seaters does give you confidence that you can make it.

You mention the British F4 Championship. You arrived in the first year of competition. How good a series was that for making the transition from karting to single-seaters?

It was very good. Before I did British F4 in 2014, I did the Ginetta Junior Championship as well, on top of karting, and that was almost like a transition from karting to F4. That was a very good car for learning racecraft. It was good preparation to go into British F4. Formula 4 went very well, of course, and I

P33

ended up winning the title. It was a big step up from what I was used to. It’s kind of the first year in which you’re really working with the engineers, going through data, learning about the car and everything like that. It was a big year in terms of learning about car racing, and one that would help me in the future.

This year you scored your biggest success to date becoming the youngest winner of the FIA Formula 3 European Championship in your rookie season. Was it your toughest season yet?

Yeah, firstly in terms of competitiveness, going up against guys who’ve been doing it for two or three years. And secondly, doing it with Carlin, a team that hadn’t had the best time in F3. Basically, it was a gamble: should we go with Carlin? It wasn’t clear-cut, but I was with Carlin in F4, I knew what they could do and what they could achieve. I had two very good team-mates, we always pressed each other, and that was crucial in terms of developing the car – especially being up against Prema, who dominated for the previous two years. In terms of most of the other championships I had done, where I’d gone in with the best team, this was different. We went with a team that didn’t even complete the whole year in 2016. We had to work extra hard and play catch-up. In terms of work ethic from everyone it was a huge step up, but in the end it paid off.

Why did you decide to go with Carlin if you had been with the top team in each previous series?

Basically because Prema didn’t want me! We did a test, it went pretty well, but we just didn’t sign the contract with them. I did some other tests but I was confident with Carlin. I did Macau and Hockenheim, the final two races of the season in 2016 with them, and there were a few changes. We knew we could push the team if we signed with them. We knew we had good team-mates and if we worked hard it would be possible to win races and compete against the best teams. So, it was all about confidence. I knew everyone and felt very much at home, especially with them being based in England. It was a gamble, but we knew it would be possible.

Does it feel sweeter, in that regard, that you made that choice?

Yeah, they’ve done well in the past – though 2016 was just really bad for them – but even in the previous years of Formula 3 they haven’t been bad, they’d just missed that final bit. It was good to be part of their championship win.

Was it good for you in terms of your own development, working with a team that probably isn’t at the top of the table?

Yes, especially at the start of the season. We structured everything well to get through as much testing as we could, to be really efficient. And having Ferdinand Habsburg and Jake Dennis trying to push everyone was good.

Norris gambled on European F3 success with British team Carlin despite its struggles of the previous season...



It wasn’t just ourselves, we pushed the engineers, we pushed the whole team to try and find a bit more and a bit more, and we knew that eventually it would pay off.

...And the Briton’s faith was rewarded when he became the youngest-ever winner of the FIA F3 European Championship.

So how does it feel now, having done it?

I’m really happy. Happy for the team as well, they’ve done an awesome job. For me to do it in my rookie season, very few people have done that. So yeah, it’s a lot of pressure off my shoulders and an incredible feeling to have won it in my first year with Carlin.

How important was it for you to do your first F1 test in Hungary in August with McLaren?

The test in Budapest was very important, my first real feeling for an F1 car, especially the 2017 one, and to see what I’m able to do in a car that I want to drive in the future. It went very well, better than I expected, and they gave me a lot of confidence to look forward to it in the future.

‘The F1 test in Budapest was very important, to see what I’m able to do in a car that I want to drive in the future’

How exciting was it?

It was awesome. It was a huge step up, even from F3. Not just in terms of the car, but mentally there was so much more going on – all those buttons and dials on the steering wheel. It took me a couple of runs to have a good feeling for the car, because just speed-wise the braking ability, the downforce, the power, it’s a huge step up. But to look back on it and know how it went, it was just awesome.

Lance Stroll and Max Verstappen made the step straight from F3 to F1. If the option had been available would you have taken it?

Well, McLaren have two really good drivers who they’re happy to roll with into 2018, so I’ll be doing F2, which will be a year to look forward to. We get to go to a lot more of the grand prix circuits alongside F1, it’s another step up, which again will be tough, but I think it’s good preparation to go onto Pirelli tyres and learn a bit more about that.

You will be one of the first to experience a new generation of F2 cars. Is that something you’re looking forward to?

It’s always cool to drive a new car. Sometimes it’s more of a level playing field, but it’s also a chance for teams to find something that can help much more. It’s always good to be part of something new and to drive a new car.

It’s looking like a busy year: you’ve been confirmed as 2018 reserve driver at McLaren and you’re also going to be doing some sportscar racing alongside Fernando Alonso at the Daytona 24 Hours in January...

I’ve never done an endurance event so I’m looking forward to it a lot. I’m gonna have two very good team-mates as well. It’s something different to what I’m used to.

So far, you’ve won every series you’ve raced in, usually at the first go – can you do that in F2?

We’ll see. It’s a little bit hard to say until we decide on a team, but of course at the end of the day I want to be winning races and hopefully the championship, so I’ll do the best I can to achieve that. 4

FIA FORMULA ONE
WORLD CHAMPIONSHIP

Lewis
Hamilton

The serene figure who cruised to a fourth drivers' title in Mexico with two rounds to spare was barely recognisable from the Lewis Hamilton of 2016, who had come off second best in a bitter inter-team spat with Nico Rosberg. The 2017 Mercedes W08 chassis may have been a temperamental diva to tune but Hamilton, his pre-eminent status at Brackley reaffirmed, was in the perfect psychological place to deal with it and the renewed challenge from Ferrari. When Sebastian Vettel won the season-opener in Australia, Hamilton quickly responded in Shanghai and, while there were difficult days in Russia, Monaco, Hungary and Austria, the Briton continued to score heavily. Wins in China, Spain, Canada and on home soil at Silverstone kept him in touch with Vettel before the rapier thrust of wins at Spa, Monza and Austin all but sealed the deal. While Vettel had his meltdown in Baku, Azerbaijan, Hamilton was teak tough throughout the season, his emotional expression reserved for the victory press conference in Mexico.

"Growing up in Stevenage, dreaming of one day being in Formula One, and where I am now is way beyond my imagination. I think dream big is definitely something we should all do – but to be four-time world champion... Four definitely feels a lot better than three..."

Hamilton was on dominant form through 2017 to keep the challenge of Vettel and Ferrari at bay.

SITTING
ON TOP
OF THE
WORLD

As 2017 draws to a close, AUTO celebrates the achievements of the FIA's sporting champions, from those competing in the most high-profile championships right down to the worthy winners of grassroots series. And we start with a man who now has four F1 titles to his name...

FIA WORLD TOURING
CAR CHAMPIONSHIP

Thed Björk

Thed Björk prevailed to take a career-defining maiden FIA WTCC title, but he had to endure a nerve-jangling final-round decider in Qatar. The 37-year-old Swede emerged as a title threat with the Polestar Cyan Racing factory Volvo S60 after finishing second in the first race weekend at Morocco and then taking a superb win in the main race at Monza in round two. He won again in round four at the Nürburgring to stay in touch with early leader Tiago Monteiro. However, the enforced absence of Monteiro following a testing crash handed Björk a golden opportunity, but his advantage began to dwindle following a series of rain-affected events in China, Japan and Macau. Ahead of the final round in Qatar, Björk had just 6.5 points in hand over new title rival Norbert Michelisz. However, a brake issue in qualifying left Michelisz out of contention and Björk drove without fault to take touring car racing's biggest prize, with the Swede finishing fifth in the opening race and fourth in the main race. Volvo Polestar also won the Championship for

Manufacturers, beating Honda by 28.5 points. “It's incredible now I've calmed down a bit, but it was completely crazy at the finish with so many feelings,” said Björk after the final race. “It just feels good now. If you set a goal and achieve it, it's unbelievable.”



Thed Björk marked himself out as a WTCC title contender early on with victories at Monza (above) and the Nürburgring.



The Swede led his charge in a Polestar Cyan Racing factory Volvo S60, taking the makes title ahead of Honda.

A run of five victories helped 29-year-old Johan Kristoffersson to the top in world rallycross.



FIA WORLD RALLYCROSS CHAMPIONSHIP
Johan Kristoffersson

After finishing third in 2015 and second last year, the sequence was successfully completed by Johan Kristoffersson in the fourth ever FIA World Rallycross Championship, but he was made to work for it by Swedish compatriot Mattias Ekström. The reigning champion (EKS RX-Audi S1) began his title defence in fine style with a hat-trick of wins before Kristoffersson brought his PSRX Volkswagen Polo GTi into the winner's circle for the first of seven victories.

Five wins in a row from rounds six to 10 ensured the title fight was over with two rounds remaining and, after spraying the bubbly in Riga at the Nestle World Rallycross of Latvia, Tommy Kristoffersson's son could reflect on a job well done. “This is something that I’ve been working towards since 2013 and I think it will take a long time to sink in,” he said. “I followed my father when he was racing – he has been to almost every race with me since and we have always worked well as a family team. “Petter [Solberg] is an excellent team-mate – we are both nerds in that we look into every detail. I am such a competitive person and I always wanted to become world champion, it is a dream come true. I can’t thank everyone enough for this incredible moment.”

06

FORMULA E'S POWER SURGE

TEXT

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SAM SMITH

There's no such thing as a transition season. That is the mantra being repeated by FIA Formula E Championship Founder and CEO, Alejandro Agag, as he and his team begin season four this month.

With the season having kicked off with a spectacular double-header at the second Hong Kong e-Prix at the start of December, the championship is entering its final year with the original Formula E design.

Although powertrain manufacturer freedom was granted for the start of season two in 2015, the current cars come to the end of their competitive lives next summer. That is when the generation two car, which is already testing, will come on stream and provide almost double the usable energy for drivers, making the 'car swap stop' that has been a defining characteristic of the series' first three seasons a thing of the past.

The Spark SRT_01 cars have served Formula E well, with the first generation of all-electric racers having put a significant charge bolt through the racing industry as it has quickly established itself as one of the key growth areas of the sport.

But those anticipating a quiet consolidation through the fourth campaign have clearly not spent five minutes with Agag, who along with FIA President Jean Todt has been the key driving force of the series over the past five years.

"Because we're so young, people make comparisons with other established championships," says Agag. "If we had 45 seasons under our belts, you wouldn't say that season 46 is

a transition season, would you? This is season four of Formula E and it's as big as any other season.

"The cool thing with season four is that the technology of the top teams with this kind of car is peaking, but the followers are catching up, so it might be our closest season yet. This is great for the championship, for the competition and for the racing of course."

TECH BREAKTHROUGH

Aims and objectives are crucial in motor sport. Agag has delivered on many so far as Formula E gets a foothold on the sporting landscape. Each season has seemed to have a distinct theme. This is something Agag attests to as a pre-determined strategy in his modus operandi.

"We like to have targets for every season. Sometimes the targets just evolve and sometimes they are ingrained from the very start," he says.

Season three was undoubtedly the manufacturers' season for Formula E, as the regulations freed up development of aspects of the car. The coming campaign, insists Agag, will be one for audiences, whether they are at the venue or tuning in around the world.

"Obviously, season five is going to be the technology season," he says. "There is a huge amount of excitement around what we are building and how we are doing it, but we need to look at season four as the one where we reach more eyes and ears. ▶

Formula E boss
Alejandro Agag has
strived over the last
five years to drive
the series forward.



TEXT

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BEN BARRY

After two decades of sales booms, scandals, negative publicity and falling sales have left diesel's future uncertain amid growing confusion among car buyers. Is this a short-term blip, or the start of an irreversible decline? AUTO examines the evidence and speaks to industry insiders to gain a clearer picture

IS DIESEL RUNNING ON EMPTY?

BRAKING POINTS

His office looks out over the countryside. Green in summer, yellow in autumn and grey in winter. Further away are the mountains, which by the end of October are beginning to turn white. Alberto Bombassei has always lived in this heavily industrialised corner of Lombardy, Italy, but with unspoilt countryside just a few minutes drive away. Mountains, rocks, waterfalls and endless vistas. He's from Bergamo, a chocolate-box town of well-educated people, where art plays an important role – tough people, pure and meticulous, with a mentality that has something of the German about it, sometimes maybe a bit too much so.

Bombassei's Brembo takes its name from the river that runs near the factory that puts the brakes on the world. No other company in this business produces as much as it does, with over 9,000 employees in factories across 16 countries, including China, USA, India and Brazil. It supplies all the giants of the car and motorcycle industry. The head office is in Stezzano, very close to Bergamo, in an area known as the Red Kilometre, created by Alberto Bombassei, which is home to all sorts of companies and even a

06

TEXT

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PINO ALLIEVI

The Brembo name is synonymous with providing high-end stopping power to some of the world's most exclusive automotive brands, but according to company president *Alberto Bombassei*, it's all born out of a passion for track competition

branch of the University of Bergamo. They work together, ideas buzz around a technological centre, unique in Italy.

Bombassei was born in 1940 and has a welcoming smile, as befits an entrepreneur with roots in this area. He's a man who doesn't say much, but one that has turned Brembo into an industrial miracle. But he doesn't overplay that, almost as though he's scared of being seen as boastful. The residents of Bergamo are known for being self-effacing and he conforms to the stereotype. It's hard to get figures out of the president. But he does let slip that investment in the 400-person R&D department ran to 118 million Euros in 2016, with a global turnover of 2.279 billion Euros. Its value on the Stock Exchange has gone up by 770 per cent over the past five years, which means the shareholders are happy.

Among the directors of the company are his daughter Cristina, her husband Matteo Tiraboschi, who is Bombassei's number two "and one day it will be his job to take the reins." Bombassei's son Luca, meanwhile, works as an architect in Milan – "he's happy doing that, which makes me happy as it's good that he has chosen his own path."

TRACK TESTED

Inside the classic glass and concrete structure designed by Jean Nouvel, it feels like a cross between a successful millionaire's home and a sophisticated First Class airport lounge. In Bombassei's office, there's an extensive library from which one can deduce he is interested in just about everything. It's a relaxed environment, ideal for quiet reflection, born out by the fact that 1,900 patents have come out of it, evident proof of creativity at the cutting edge of competition. Today, it is one of the biggest Italian companies and it all began through sport, which is something Bombassei smiles about before telling the story.

"I have always loved competition and right from when I was a kid I took part in hillclimbs with a Fulvia HF. I'd get the first editions of *Quattroruote* and *Autosprint* and feast on those. ▶

Alberto Bombassei splits his time between his hugely successful Brembo company and an active role in Italian politics.



Bombassei was nervous about meeting Enzo Ferrari, but formed a good relationship with the famed car maker.



Brembo started as a small firm making mechanical components in the 1960s before switching to brakes – it now has factories in 16 countries.

‘Sport is an exceptional and irreplaceable testing ground for companies like ours. Competition is fundamental to the development of Brembo’

I was working in the metal working company started by my father and uncle in 1961; we made mechanical components for various customers, including Alfa Romeo. Then, one day, a truck tipped over near our factory. It was transporting Dunlop disc brakes destined for Alfa Romeo, the first company in Italy to use them.

“At some point, Alfa asked us if we could try and recover some of the load. We did it, while taking a close look at the items that had come from England. And we realised that, with our technology, we could do better. Alfa listened to what we had to say and trusted us and that was how it really all started. It was 1964 and we had around 30 employees. A few years later, we were involved in competition, with Moto Guzzi and Suzuki Italia, who were taking part in endurance racing. Then it was time for Ferrari. Sport is an exceptional and irreplaceable testing ground for companies like ours. You get used to the highest possible levels of quality and efficiency, and working to a tight time scale. Competition is fundamental to the development of Brembo.”

Maybe Brembo would not be what it is today if its path hadn’t crossed that of Ferrari.

“Definitely, I was at Ferrari very often to talk about supplying our discs and I’d developed a good relationship with Piero Ferrari. But one day I asked if it would be possible to at least have a brief word with his father. He smiled at me and arranged a meeting for the following week. That was in 1975.

“The days leading up to the meeting were a torment and I couldn’t sleep the night before. I thought Enzo Ferrari was a severe person, someone unapproachable. But I found a man who was open and took a shine to me, treating me like a son. He gave me a chance and we managed to produce parts that worked well immediately in testing at Fiorano. The drivers were Lauda and Regazzoni. Clay was lead-footed, an old style warrior. Niki was more poised and his analytic ability, which one could compare to today’s computers and simulators, would be fundamental to the development of Brembo brakes on the Ferrari. He was incredible!”

In 1981 at Monaco, Gilles Villeneuve won using Brembo aluminium callipers, almost on their debut.

“That was so satisfying! He had a brutal driving style, but he was also a great test driver who understood the technical side. Don’t forget, alongside the Ferrari drivers was the engineer, Mauro Forghieri, who worked with us and pushed forward the development. There’s always pressure in Formula One. It’s a discipline where mistakes are not contemplated – if you make one, you are ostracised. I’ve always liked that sort of challenge.”

And Michael Schumacher?

“At the time he showed up at Ferrari, the cars had a lot of power and were very fast. Michael

braked very violently. At this time, braking had become more physical, because you had to step on the pedal with a force of 60 kilos. Schumacher was daring enough to go to the limit, hitting the brakes harder than his rivals without ever locking up the wheels: he had an amazing sensitivity. He followed our work closely, understanding it and making suggestions.”

STOPPING POWER

But what of Brembo’s relationship with today’s F1 teams? What is that like given that the company supplies seven of the 10 outfits?

“Good, because we have always respected the confidentiality of each one of them. We are Italian and the first team with which we worked was Ferrari. But that has not impeded us from also supplying Mercedes. Actually, Mercedes is our number one customer when it comes to road cars. The important thing is to act correctly. Would you believe that, in the early years, we knocked on the door at Fiat without even getting a conversation with them.”

Brembo has always been welcomed with open arms in Germany, perhaps because of the affinity mentioned earlier.

“That’s true,” says Bombassei. “Twenty-five years ago came the first approach with Porsche and they threw open their doors to us. There was an immediate understanding and it was clear that in Stuttgart there was an incredible car culture mixed with a great passion. We produced our famous red callipers with them, which were



Gilles Villeneuve en route to victory in a Brembo-shod Ferrari at Monaco in '81. Above: the Brembo boss drives a Porsche on a daily basis but has just bought his first Ferrari.

married to alloy rims that had plenty of space to show off the discs. It immediately became fashionable. Nicely designed and visible callipers and discs became an added value for Porsche, later imitated by others. A long time ago, in the United States, there was a TV commercial with a woman washing her car and she said, 'look what a lovely car, it's got Brembo brakes.' And the advertisement wasn't even paid for by us! Today, all sports cars in the USA fit our systems.”

Is there a crossover from motor racing to production parts?

“I’d say almost completely. The effort we put in on the race track to gain a hundredth of a second per lap is transferred to the production parts to reduce braking distances for the end user. Otherwise, there’d be no sense in it.”

THREE HORSEMEN

Over the years Bombassei has interacted with three huge personalities at Ferrari: Enzo Ferrari, Luca di Montezemolo and Sergio Marchionne, so how would he describe them?

“Ferrari was like the Pope. His benediction

opened the doors to the highest level across the world. When Lauda won the title in 1975, Enzo Ferrari gave me a gold watch: look, I’m wearing it now, it’s been on my wrist for over 40 years and I will never take it off, as it brings back memories that are close to my heart. Montezemolo put all his effort into Ferrari for 26 years. Kind and educated but woe betide making him lose his cool because he would shout like a madman and make the windows shake and I saw that side of him too. I got to know Marchionne through [Fiat President] John Elkann. He is open-minded and makes himself available. If you do something well, he acknowledges it, but if you don’t, he goes into a rage and it’s terrible to behold. He brought me onto the board of the FCA, which I left when I moved into politics. I have a cordial and occasionally confidential relationship with him.”

Last July, Bombassei was inducted into the Detroit motoring Hall of Fame...

“It was very gratifying and immensely emotional. It doesn’t seem real to me to be there in company with the likes of Ferrari, Bugatti, Agnelli and Pininfarina. It’s something that scared me, but made me proud.” ▶

Despite its long association with Ferrari, Brembo prides itself on having a good relationship with all the current F1 teams.

Bombassei describes his relationship with Ferrari boss Sergio Marchionne as "cordial and occasionally confidential".



Since 2013, Bombassei has also been involved in politics. Why? And how does he divide his time between Brembo and the Chamber of Deputies?

“I base myself in Rome for two or three days a week and the rest of the time I’m at the company. I felt I had to give something back to Italy, to contribute to its growth. I am passionate about it. For example, I am part of the Commission for Productivity, Commerce and Tourism and I feel I am one of the fathers of the 4.0 industrial project, which involves a change of direction for the country to grow. It’s a revolution that will be embraced by those who have the will to do so. Those who don’t understand run of the risk of closing down or getting smaller. We are already embarked on this and in the last year and a half, we have taken on 420 people, most of them young graduates. The world is changing at the speed of light and you have to be able to adapt.”

THE NEXT GENERATION

On the subject of renewal, what does Bombassei think of the Tesla phenomenon?

“Tesla is a customer of ours and has fitted Brembo right from its very first car. [CEO Elon] Musk is a dreamer. We built a factory in Mexico to meet his demands, but it seems to me that his level of growth is less than expected. In the meantime, he is establishing a huge facility to produce the batteries. On the Stock Market,

Tesla is worth more than General Motors.”

Like many captains of industry, Bombassei’s day seems to last three times longer than anyone else’s. So how does he do it?

“I am pretty much a creature of habit and have a normal timetable. I get up at 7.30am and I am in the office an hour later, and in the evening I’m often at a dinner or a meeting to tackle the problems confronting Italy. I am happy to do that, because I believe it’s useful to talk with people and listen to their expectations and problems.”

So what does he do in his limited free time?

“I read the papers and some books on economics. I have a few historic cars and I’ve driven them in the historic Mille Miglia: a Mercedes gullwing 300 SEL, some Austin Healeys, a 1939 Triumph.

“My daily car is a 911 or a Porsche Cayenne, which is much more comfortable. But for the first time I’ve ordered a Ferrari, a Tour de France, which arrived a few days ago.”

Given that Bombassei has spent his life in the car industry, has he never considered building one? “We did make a Brembo with four electric motors – one per wheel, including the brakes – based on a Fiat 500 Abarth chassis as an experiment,” he recalls. “It was on display at the Frankfurt motor show four years ago. Some of the ideas used on this prototype were taken up by others, which pleased me. It was a shock tactic, but Brembo’s skill is in slowing down cars, not in building and selling them on the market.” ♦



Bombassei presented FIA President Jean Todt with an award marking his entrepreneurial and sporting successes on a visit to Brembo’s new showroom earlier this year.

‘I felt I had to give something back to Italy, to contribute to its growth. I am passionate about it’



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Concepts such as Mercedes' IAA (Intelligent Aerodynamic Automobile), first shown in Frankfurt in 2015, feature simplified user interfaces that rely on high-resolution touch screens, eye-tracking and gesture control.

The morning work routine of the 21st century would appear quite alien to a visitor from even a few decades ago. There are overnight emails to read, perhaps also texts; replies to dictate, calls to make, some to answer, a whole morass of interaction to get through before starting the real work of the day. Then you find a parking space, pull on the handbrake and go into the office.

While the physical act of driving has not greatly altered in the last 50 years, the 21st century has seen the wider experience changed beyond recognition. It is the secondary functions of the vehicle through which progress is demonstrated, and upon which the modern battle for sales depends. Car-as-office-extension is one scenario, but car-as-living-room is equally applicable. Ever greater personalisation makes the car a living/working space, complete with communications and enhanced entertainment connectivity.

This brings with it problems. A vast amount of information is being hurled at the driver, who also has to contend with car-specific technologies such as satellite navigation, complex climate control, and greater situational awareness from the vehicle itself in the form of lane departure warnings and traffic signal recognition. In an effort to the keep the driver informed and entertained, the risk of distracting them has been greatly heightened and information overload is a very real threat. In the past, the threat of distraction was primarily an external influence; today, the interior of a vehicle is more than capable of providing its own distractions.

There are, of course, limits – no vehicle manufacturer is going to let a driver update a Facebook page while on the move – and there are plenty of advocates for a simpler, more restrictive car. But this is in itself problematic: the vehicle mimicking the functionality of a smart phone is the lesser of two evils; having the driver tapping away at the smart phone itself is ultimately more dangerous. ▶

TEXT
/
MATT YOUSON

INFORMATION OVERLOAD...

With modern vehicles becoming increasingly connected and interior displays growing ever more complex in terms of data delivered to drivers, are we now approaching the point of too much information? AUTO investigates

06

Playing a leading safety role

Movie and TV star *Michelle Yeoh* has been a long-time activist for road safety and this year became an ambassador for the FIA's #3500Lives campaign. She explains how the initiative can help reduce the death toll on the world's roads and why she's passionate about the use of child safety restraint systems

How important is the #3500Lives campaign in raising awareness of road safety issues on a global scale, and how valuable is the FIA's association with JCDecaux in achieving that goal?

The visibility we have been able to achieve with this campaign has been remarkable. The #3500Lives campaign is about delivering simple road safety messages to as great a number of people as possible and through the co-operation with JCDecaux we have been able to deliver these easily implementable safety tactics to people in 75 countries and over 900 cities worldwide. I think it's incredibly impressive that the campaign has been able to mobilise such a large and concerted effort across so many countries simultaneously.

You have been involved in road safety campaigning for some years now, so have you seen the effectiveness of similar projects on a smaller scale and what is your ambition for this campaign?

For me, the key to #3500Lives is the simplicity of the road safety advice being disseminated. None of the solutions we are presenting are complex, but we know that each one is highly effective in reducing fatalities and injuries on the world's roads. My ambition is that we present these simple,

Michelle Yeoh has long campaigned for greater safety on the world's roads.

affordable, life-saving strategies to as many people as possible and that as a result behaviours change or people begin to lobby government to improve legislation or infrastructure.

How much more impact do you feel such campaigns have when they feature public figures and role models as ambassadors?

I think it's of value, just in providing a connection, particularly so for younger people who may look up to the individuals featured in the campaign. That's especially true in the case of the sports stars taking part in #3500Lives such as Rafael Nadal and Marc Marquez, and also music stars such as Pharrell Williams. By linking together these famous names with simple messages about risk factors – speeding, drinking and driving, wearing a safety belt and motorcycle helmet, using a Child Restraint System – I hope we can build sufficient mass to break through.

Your key message is Protect Your Children – what are the essential methods of ensuring that happens and does it vary from country to country? For example, child safety seats are widely used in many regions as well as safe walking to school, good road behaviour etc...

As adults, we have a particular responsibility for our children, for all children. The best way to protect them is to make their environment safe. That means we need to design roads and streets that are self-explaining and safe to navigate. We need to promote traffic calming to make it impossible for cars to drive fast near children. In many places around the world none of these safeguards are present and children's lives are at risk every day just in making what should be an easy journey, say to school. Every child has the right to a safe walk to school and we need to press for action at executive level to improve infrastructure where it is lacking. Additionally, I would say that it's about making sure your child wears a helmet if on a scooter

or motorcycle. This is hugely relevant in many emerging economies where two-wheel transport is the norm. Also we need to encourage the use of Child Restraint Systems in cars. According to the World Health Organisation the use of child restraints can reduce infant death in car crashes by 71 per cent and toddler deaths by 54 per cent, and yet many countries still have no legislation in place mandating the use of child seats – and that needs to change. The fact is that 500 children die on the road every day on the way to school or just playing outside. That is a terrifying number but it can be reduced if we implement these straightforward solutions. It's not rocket science and it doesn't have to be hugely expensive.

Your home country of Malaysia is involved in some interesting road safety measures such as the Safe Steps programme. Can you tell us about it and the progress being made across Asia...

Safe Steps is a pan-Asian public service initiative spearheaded by the Prudence Foundation in partnership with National Geographic and the FIA. It's a powerful example of the multi-sector cooperation that

‘None of the solutions we are presenting are complex, but we know they are highly effective in reducing fatalities and injuries’

is necessary in achieving the UN's Sustainable Development Goals. The campaign features public service announcements that are being shown across Asia on FOX channels and which reach 80 million households every day. That's backed up with activities in Malaysia, Indonesia, the Philippines, Thailand, Myanmar and Cambodia. In Vietnam, campaign billboards will be installed across the centres of Ho Chi Minh City and Hanoi, as well as at 12 universities.

The #3500Lives campaign is about trying to encourage good practice on the roads. How can people promote that individually?

Firstly by putting the advice into practice themselves and setting an example for their family and friends. It's about taking responsibility for your own safety and for that of other road users, particularly children and pedestrians. Beyond that it's about lobbying for change at local and regional level, pressing for good roads, infrastructure and legislation. The road safety strategies we are promoting are not complex or expensive, but if we adopt them and encourage the same behaviour in others we'll reduce the terrible toll on our roads. ◀

Security on display

The FIA's #3500Lives campaign can only succeed if its safety messages reach as many people as possible around the world. In partnership with advertising giant JCDecaux the campaign messages will be displayed on the company's advertising spaces worldwide, as seen in these pictures of #3500Lives going global. Materials associated with the campaign are available to everyone and can be accessed through the #3500Lives campaign site. Just scan the QR code (right) to find out more about the FIA's mission to save lives on the world's roads.



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Portugal

‘Winning in Monte Carlo was the thing I always wanted to do’

TEXT
/
TONY THOMAS

07

World Rally Championship titles, Pikes Peak assaults, Nürburgring lap records, *Walter Röhrl* captured them all, but 40 years down the track and still at the wheel, it’s his four Monte wins in four very different cars that satisfy him most

“Can you call me later? I’m driving – in the Bavarian forest – and the reception here is not so good.”

It’s the perfect intro to one of the biggest-ever beasts of world rallying. Walter Röhrl is at the wheel – *of course he is*. And he’s right to put us temporarily on hold: the backbeat of a muscular engine, hurrying Röhrl towards his home, is more impediment to conversation than any sketchy phone signal would be.

The rumble, or scream, or throb, of a tuned motor must surely accompany Röhrl in his dreams, for even at 70 and long retired from active competition, this two-time world rally champion remains steeped in the sport that made his name.

Tomorrow he’s flying to a Porsche motor sport function – on driving duties, not mere glad-handing of VIPs. The summer was peppered with

test and promotional events including the co-development and launch of the dizzying 700bhp 911 GT2 RS. Next week it’s Spain for demo laps in the new 718. His calendar remains full.

It’s one way, he explains, of staying sharp. “If I stopped now, sitting in a fast car and driving fast, then I would lose the skill and I would never get it back. But as long as I stay in form, it’s okay. I still feel like I have it under control; I don’t feel any different when I’m driving – and the young guys still say I’m okay.”

A chuckle and a flashback. There’s Röhrl, hanging out the back end of a Fiat 131 in 1980 or an Opel Ascona in ’82, drifting them very sideways, but always under control, from lock to lock on tarmac, snow and gravel, as he scrambled to his two world titles.

Then it’s the fabulous Lancia 037 – the ultimate expression of the rear-wheel-drive world rally car.

Next up, four-wheel-drive, flaming turbos and downforce: the Audi Quattro – the 600bhp terror of the forests that ripped up the rule book for rally car speed. Röhrl was right there through this transition from ‘old school’ rallying into the neon-lit Group B ’80s, laying down thick black lines of ink across the most thrilling – and dangerous – chapter in the sport’s history.

Not that it ever felt so perilous from the bucket seat, even as Röhrl and feted peers such as Markku Alén, Ari Vatanen, Henri Toivonen, Michèle Mouton and so many others scorched trails through the hordes who’d troop in their thousands into the forests to be spellbound by their magic. The wild machines produced for Group B – the regulatory framework that defined top-tier rally machinery from 1983-86 – proved hugely attractive to both manufacturers and fans, though with ultimately tragic results. ▶

At the age of 70, Röhrl remains as busy as ever behind the wheel, with no sign of slowing down just yet...



Spectator control in the '80s was often notional at best, leaving competitors with no choice other than to aim their cars right into the masses, who'd crowded onto live rally stages in the hope of getting as close as possible to their heroes.

"If I watch the videos now," says Röhrl, "I cannot understand that I was able to do that, because I am shocked to watch it. But at this time it was your daily work and you got used to the situation. It was part of the job and finally they [the spectators] would jump away – or you hoped they would. It was crazy, really, and I am so lucky never to have had an accident in which a spectator died, because if I had killed a person, I don't know if I could have kept on doing this.

"It wasn't even a question," he continues, "of making a mistake yourself – I always trusted myself not to do that. But even a minor mechanical failure, or a puncture, could have sent your car straight into a crowd at a very high speed."

Others were not so fortunate. At the 1986 Rally Portugal, the Ford RS200 of Joaquin Santos left a stage and ploughed into spectators, killing three and injuring 31 more. This accident and the fatal crash for Lancia driver Henri Toivonen and co-driver Sergio Cresto, later in the year on the Tour de Corse, spelled the end for Group B – that most unshackled, yet revered period of rallying.

"When Henri died, I honestly wasn't surprised," says Röhrl. "We were team-mates at Opel in 1982 and he was fast, but he had a lot of accidents. He was a bit crazy – speed-drunk, I think."

Despite the tragedies, the echo of a Quattro straight-five is carried on Röhrl's words as he recalls the experience of being in the vanguard of rallying's four-wheel-drive revolution: "It was

'It was a course where one mistake could be your last mistake. So suddenly I was excited by the challenge'

such a special time," he says, "and even now people get a little bit crazy when they talk to you about Group B. I'd driven for Lancia in 1983 and the 037 was the best rear-wheel-drive car I ever drove. It was so precise – like a formula car – so light and powerful. But by then Audi had really started to refine their four-wheel-drive system and I realised that without it there was no way any more to win a rally."

QUATTRO CHALLENGE

Röhrl had tried a Quattro earlier in the '80s and while he had been impressed by its traction, other aspects of the car's performance, such as its handling balance dominated by understeer, were not to his taste. By 1984, though, the Quattro had been tuned more to his liking, thanks in part to a central differential, which distributed power more fluidly between the four wheels and sweetened the handling.

Against mid-engined rivals from Peugeot (the 205 T16), Lancia (the Delta S4) and Ford (the RS200), the Quattro was always held back by its front-engine layout that resulted in nose-heavy handling, but its engine was the mightiest of all. "And the sound from those five cylinders and the

turbo wastegate when you lifted off the throttle... That was so special," says Röhrl.

The Quattro, like all its Group B ilk, was a handful: a 600bhp turbo motor, trapped inside a stripped-out bodyshell that could trace its origins to a mid-size road-going coupé. Four-wheel drive was essential to keep the show stitched to the road.

It was brutal – brutally quick – and demanded that even a two-time world champ completely revise his driving style in order to realise its potential. "I had to learn how to left-foot brake," says Röhrl, "to make the car turn in."

He recalls the troubles he encountered during an Audi test in November 1983, shortly after the switch from Lancia and the rear-drive 037. During practice passes of a snowy forest stage, Röhrl at first used his conventional right-foot-braking technique. All seemed relatively normal until he encountered black ice, when: "I simply couldn't make the car turn in and I rolled."

With the notoriously icy Rallye Monte-Carlo barely two months away, Röhrl realised he had a problem: "So I started using my left foot, but at first it was like I was using my foot on the clutch pedal – you know, just a big push with no sensitivity, no feeling. I was making a lot of mistakes and crashing and it was a bit of a disaster for me."

Then a revelation: Röhrl realised that he'd been trying to adjust the car's cornering attitude by altering brake-pedal pressure with his left foot. His epiphany was to keep left-foot-braking pressure constant, but to alter the car's corner approach by "playing" with the throttle at the same time. Not easy, but it brought instant results: in heavy snow on the '84 Monte, Röhrl and long-time co-driver Christian Geistdörfer led home an Audi 1-2-3.

That was the last of Röhrl's four Monte Carlo wins and his third on the trot – each of those having been taken in cars with a different drivetrain configuration: 1982 was a front-engined, rear-wheel drive Opel Ascona; '83 was the mid-engine, rear-drive Lancia 037, then in '84, the Quattro.

"Those four wins do make me a little bit proud," Röhrl admits, "more than winning the drivers' titles, actually, because when I started out in rallying, winning in Monte Carlo was the thing I always wanted to do."

So much so, in fact, that after his first win in 1980, he thought about quitting rallying altogether, having achieved his life's ambition!►

Rohrl nearly quit rallying in 1980 after realising his dream of winning in Monte Carlo – co-driver Christian Geistdörfer talked him round.



The German famously led home an Audi 1-2-3 on the '84 Monte – his third win there on the trot.



The Lancia 037 was, says Röhrl, the best rear-wheel-drive car he ever drove – his '83 season included an Acropolis Rally win.



After being talked into competing, Röhrl set a new record in the 1987 Pikes Peak aboard the Audi Sport quattro S1.



AMERICAN BEAUTY

For its 2018/19 ‘super-season’, the FIA World Endurance Championship will return to one of US racing’s most famous circuit – Sebring. AUTO looks back at almost seven decades of competition in the City on the Circle

TEXT
/
DAMIEN SMITH

Sebring International Raceway: a flat, featureless circuit based around an aging airport in a nondescript part of Florida, about three hours north of Miami. It doesn’t sound like much. But the basic physiognomy sells this place short – because on race weekends there’s something magical about Sebring for true-blood fans of global motor sport.

Which is precisely why the 3.74-mile road course simply has to be a part of the rejuvenated FIA World Endurance Championship when its new ‘super-season’ format launches in 2018, for the first time across two calendar years. Sebring is special, and fittingly its place on the WEC schedule – for the first time since 2013 – will offer something entirely unique in a brave new world.

The circuit, nestled away from the US-27 turnpike in Highlands County, oozes character. Its craggy features and worn-in ambience are warmly endearing, both to the hard-core fans who throng to the fabled Turn 10 and the enduring procession of European disciples who have crossed the Atlantic for the past 60-plus years to race in its famous once-around-the-clock 12-hour slog-athon.

Yes, the races are as tough as the place looks. Half the time of Le Mans it might be, but there’s a reason why the sport’s greatest manufacturers have relished the challenge of the

Sebring 12 Hours for so many decades. The adage goes if you can last and win on Sebring’s infamously teeth-rattling concrete bumps, victory at the French classic is in sight. The Florida enduro, traditionally held on the third Saturday of March each year, tests the mettle of both man and machine in a manner that can’t be replicated in any carefully manicured private test.

Then again, to summarise Sebring as simply the perfect precursor to Le Mans does the race a monumental disservice. This place proudly stands alone, because its own heritage glistens with the brightest jewels of motor racing history. Stirling Moss, Juan Manuel Fangio, Mario Andretti, AJ Foyt and the greatest heroes of every generation have raced and won here, and when you roll off Golden Eagle Drive, trundle through the gates, over the road bridge and into the dishevelled (usually chaotic) infield paddock, their echoes resound.

It helps that Sebring has changed so little through the years. Sure, circuit layouts have been tweaked and (some) modern amenities added. But the front stretch, Turn 1 sweep and much of the rest would still resonate for the likes of Fangio, were the double Sebring winner of 1956-57 to return today from his seat among the racing gods.

Like Silverstone, the circuit’s roots were sown during WWII. Hendricks Fields was an army airforce base founded in 1941, a year before Pearl Harbour. B-17 combat crews would subsequently train here, but when peace broke out in 45, Hendricks was deactivated – and Sebring airport founded in its place.

It was aviation and motoring enthusiast Alec Ulmann who had the idea of hosting motor races here. America’s first sports car endurance race, a six-hour affair, was held at Sebring on December 31, 1950 – and two years later, the first 12 Hours took its bow, on March 15, establishing the spring-date tradition. ▶

At 22, Bruce McLaren became F1’s then-youngest winner when he took his Cooper to victory in Sebring’s only Grand Prix, run in 1959.





The Ferrari 333SP took the second of three wins in 1997, with a four-strong crew of Andy Evans, Fermin Vélez, Yannick Dalmas and Stefan Johansson.



Tom Kristensen scored his record sixth Sebring win in 2012 in the No2 Audi shared with Allan McNish and Capello.

But Sebring still had the tendency to throw up unexpected results: the Porsche that crossed the line first wasn't always the expected one, while the likes of AJ Foyt added to the illustrious list of race winners. The great Texan took his final big win at the 12 Hours in 1985, sharing a Porsche 962 with Bob Wollek.

AUDI'S GOLDEN ERA

The death of Group C/GTP in the 1990s opened the door for Ferrari to unexpectedly win sports car races again, when its pretty customer 333SP prototype scored a trio of victories, before manufacturer might returned with the birth of the American Le Mans Series in 1999. This was another key date in Sebring's race history. As it would at Le Mans, BMW prevailed, with Tom Kristensen claiming the first of his record six wins, while Audi landed a podium on its sports car debut – a precursor to a new era of German dominance.

Audi would conquer 11 of the next 14 races in Florida, including a glorious straight-out-of-the-box win for its ground-breaking diesel-powered R10 TDI in 2006. The new technology would define sports car racing for the next decade, but that victory – at a race considered the most demanding of them all – remains high in Audi's roster of proudest sporting achievements.

Among the other wins was Kristensen's record sixth, teamed with Allan McNish and Rinaldo Capello in the R18 TDI in 2012 – the first round of the FIA's new World Endurance Championship. Now, after three years off the calendar, Sebring is gearing up for its global series return as we await the start of the all-new WEC 'super-season'. But fans in Florida need to be patient – and here's why.

In May 2018, Spa will host the opening six-hour race of the WEC season, before Le Mans once again draws the eyes of the world in June. Further six-hour rounds at Silverstone, Fuji and Shanghai will carry the season through 2018, and for the first time into the following calendar year as a new – and unique – 12-hour race is ushered in at the beloved Florida airfield track.

As tradition dictates, the Sebring 12 Hours itself will run on Saturday March 16 2019 for the US-based WeatherTech SportsCar Championship, from 10am and into darkness to the 10pm finish. Then at midnight, the new WEC race will begin, racing into the dawn and a noon finish on the Sunday. From there, the season will continue for a second visit to Spa in May and will end for the first time at Le Mans, with a second 24 Hours counting for one single 13-month season.

So much novelty, then, and a great deal to look forward to. But for those who love long-distance sports car racing, Sebring in March 2019 will be the date to circle. The countdown is long, but the wait will be worth it. ◀

‘That win – at a race considered the most demanding of them all – remains high in Audi's roster of proudest sporting achievements’



Sebring honours this year went to the Wayne Taylor Racing Cadillac of Alex Lynn, and Ricky and Jordan Taylor. In 2019 the 12 Hours will share the billing with a new WEC race.

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08

Driving Norway forward

TEXT /
GAIA PELLICCIOLI

How Norway's forward-thinking motor clubs are supporting sport, future transportation and road safety ›



ROYAL AUTOMOBILE CLUB OF NORWAY

- Plugging into an electrified future for transport
- Aiming for a nation of zero road fatalities



NORGES AUTOMOBIL-FORBUND

- Diversifying to meet new market segments
- Investigating mobility as a service to meet demand



NORGES BILSPORTFORBUND

- Accessible sport for the next generation of champions
- Building environmentally-sustainable motor sport



NAF wants to provide for all types of transport, not just cars, with products and services made available to cyclists too.

“We’ve been a central stakeholder in the debate on car taxes for more than 10 years,” says Andersen. “We have succeeded in establishing the principle that vehicle taxes, which traditionally have been very high in Norway, should be based on a car’s emissions, not the engine power.

“Our most important concern now is that the politicians do not reverse all the good work and introduce taxes on electric cars before they are competitive in the market.”

Thanks to a close collaboration with the authorities and non-profit groups, with 13 per cent of revenues due to road safety education, the club is a central player in road safety.

“NAF has responsibility for 26 training courses across the country, which are central to the obligatory part of the driving permit

programme,” says Andersen. “In addition, we run a series of courses and activities – and reach out to kindergartens, schools, including the school bus services, and businesses.”

To improve safety standards, NAF has also promoted the construction of safer roads, which allow drivers to make minor errors without causing a serious accident. Andersen calls this the “forgiving roads” philosophy.

“Our road safety work touches on the political, with a long-standing commitment to increasing the turnover of the car fleet, reducing the number of old, unsafe cars on our roads. Recently, we’ve increased our attention on road safety issues in urban areas, working with the authorities to improve conditions for cyclists and pedestrians.”

The club’s close relationship with the authorities led it to introduce an important mobility campaign this year, in order to showcase its role as a link between politicians and the public, and to raise awareness about the influence NAF members have.

“In conjunction with this year’s parliamentary elections, NAF developed a major campaign where we got all eight party leaders to seek our members’ advice on issues such as urban transport, car taxes and electric cars,” says Andersen.

“The campaign was a success, with more than 40,000 visitors to the website, and it highlighted our role as an important stakeholder in the transport debate.”

Another important area of NAF’s activity is vehicle inspection and repairs, which accounts for 20 per cent of its income, and which the club is looking to expand.

However, Andersen wants to go further than providing assistance for cars only. He says all types of vehicle should allow for safe, efficient and environmentally-friendly travel.

NAF sees its future role within the context of an integrated mobility system, which puts the consumer at the heart of transport services by offering them tailor-made mobility solutions based on their individual needs, with personal data at its core.

“It is essential that we take the position as the main distributor of products and services in people’s everyday travel. To succeed, we will expand our portfolio to include new technology, and products and services related to leasing or car sharing. We’ll also define our position within the travel industry, where our aim is to be our members’ preferred provider of important information when travelling in Norway.

“We will develop products and services that are relevant to our future members’ needs and are currently in the process of digitally transforming the entire organisation.”

This is the future of transportation, with permanent connections between infrastructures, vehicles and users. But we are not there yet.



Norges Bilsportforbund President Per Madsen is working to attract more young Norwegians into motor sport.

Norges Bilsportforbund / Making motor sport more accessible

According to Per Madsen, newly-elected President of the Norges Bilsportforbund (NBF), the secret of a successful motor sport organisation resides in accessibility and giving new generations the opportunity to carve out a career in the sport.

With 5,500 licenced drivers on an annual basis, 13,000 one-time licenced drivers and 130 clubs organising 470 events each year, NBF, the national sporting authority annually delegated by the Royal Automobile Club of Norway since 1932 to exert control over motor sport in the country, is making solid efforts to ensure it is accessible, particularly to young enthusiasts.

“Since 2007, we have worked hard with a young drivers’ development programme,” explains Madsen. “And since 2010 we’ve received funding from the FIA Sport Grant Programme for this initiative. We are very grateful to the FIA for this funding that has been crucial in developing major activities in this important area.

“Now we can see the results. We have several young drivers at international level who are, or have been, programme members. Andreas Bakkerud, bronze medallist in World Rallycross 2016, Dennis Olsen, second in the Porsche Supercup this year, and 14-year-old Dennis Hauger, who this autumn joined the Red Bull Junior Programme after some spectacular results in karting. He’ll be starting in Formula 4 next year.”

In order to encourage young people into motor sport it’s essential that there are low-cost alternatives to attract them: good local working clubs, facilities and circuits.

An initiative Madsen feels is well adapted to the Norwegian context is Cross Car, which was brought to life this year by the FIA ASN Task Force and Development Department as a new level at the base of the off-road and rally pyramid.

“Cross Car is a good start on the pathway to rally and rallycross,” he says. “We’ve seen that drifting is also a good option in Norway for those who are not motivated or don’t have the funding for racing. Grassroots motor sport will grow in the future.”

ROLE MODELS

Another project aimed at attracting young people, particularly in the future, is the Sim Racing Cup, which NBF launched this year. It’s a virtual platform that has demonstrated on several occasions how driving ability in real conditions can be compared to that in the virtual dimension.

Young people need role models and in Norway they are not lacking, particularly in off-road and rallying, with top names such as Andreas Mikkelsen, Mads Østberg, Ole Christian Veiby, Petter Solberg and Andreas Bakkerud.

“It is important for our young drivers to see their heroes compete in Norway. In a way, it brings their own dreams closer,” says Madsen. “We could see this clearly in 2003 when Petter Solberg became World Rally Champion. That was a boost for rallying in Norway. When you have top drivers, the media coverage whips up interest among the public.”

The success of international sporting events is not, however, limited to having great champions. For Madsen, it’s the close co-operation between the various players involved – drivers, sponsors, clubs, organisers, fans and the media – that ensures events are successful.

Most of all, the sport depends on the invaluable work of volunteers and officials, without whom it couldn’t run.

“We must work with clubs and organisers to make volunteer participation attractive,” says Madsen, for whom the recruitment of volunteers is a key objective.

Besides a great rallying heritage Norway boasts a long tradition of autocross competition, including a national all-female class that attracts about 70 participants every year, and rallycross in which NBF is involved in various successful national and international events, including the FIA World Rallycross Championship round hosted at Hell since 2014.

“We have a long rallycross tradition and a good national series. We are part of RallyX Nordic together with Sweden and Denmark, and from next year Finland will host events. RallyX Nordic is an FIA NEZ (North Europe Zone) series. We have a good level of cooperation within it.”

Even though no complete international rally event is planned, the club hosts certain stages of Rally Sweden and actively cooperates with the Swedish clubs in its organisation.

“We hosted the World Rally Championship in 2007 and ‘09, but due to financial problems we haven’t run Rally Norway since. But we have a close co-operation with Sweden.

“Since 2012 Rally Sweden has visited Norway for one day each year, with Norwegian clubs organising the stages. Our Secretary General is a member of the board of Rally Sweden, and several Norwegian officials and marshals have rally duties. It’s a good example of border-crossing. It’s been a success and will continue in the future.”

Apart from promoting sporting events, Madsen is keen to develop close links between members of the FIA family – which was the aim of the FIA Sport Regional Congress held in Gardermoen in 2016.

“This was the first time the club hosted such an event in Norway since it became an FIA member in 1908,” he says. “It was an honour for the club to play host to so many motor sport friends from Europe.”

Another significant feature of the Norwegian Sports Federation’s programme is environmental sustainability. ‘Yes, we care’ was the NBF’s motto during the 2009 Rally Norway, when the federation created a working group to ensure the sport’s environmental sustainability.

“After one year, we saw that these efforts were bearing fruit and the topic became increasingly relevant. As a result, we changed the status of the working group to a commission.”

In March 2015, the NBF attained an Achievement of Excellence in the FIA Environmental Certification Framework, which gave it the impetus to continue improving its work in the field of sustainability.

“There is a lot of focus on electric cars in motor sport,” says Madsen. “In Norway, we have many private electric cars and have accumulated a certain experience with them. Inside the NBF, we also have a tradition of adapting easily to new trends.”

‘It is important for our young drivers to see their heroes compete in Norway; it brings their own dreams closer’



Fredrick Andersen, President of the Norges Automobil-Forbund, is focused on road safety and future transport needs for its members.

“Getting smaller to play bigger” might seem an unlikely motto for an automobile organisation with half a million members – and which is currently adding 50,000 new members a year – but for Norway’s largest club, the Norges Automobil-Forbund (NAF), the catchphrase expresses a philosophy that focuses on members’ needs in order to grow.

NAF President Fredrick Andersen explains: “We urgently need to improve our segmentation model and deliver with higher relevance to different needs among our members. Improving data quality and analysis will be crucial over the next few years, and to meet future member

needs we might introduce different types of memberships that could disrupt our existing model.

“We have established several autonomous teams to create new products and services, as well as develop our existing portfolio.”

CHANGING NEEDS

A look at NAF’s member benefits reveals it has already achieved considerable diversification, catering for segments beyond just motorists.

“The transport sector is rapidly changing and we are working to develop our existing portfolio of member benefits to include electric car owners, cyclists and commuters in large cities,” says Andersen. “Norway is in the forefront of electric car adoption and we’re looking at how we can help our members through this major change.”

NAF has successfully adapted to the explosion in electric vehicle ownership in Norway by improving the quality of roadside assistance for electric bikes and cars.

“EV assistance is part of NAF’s ordinary roadside breakdown service,” confirms Andersen. “And member benefits concerning charging electric cars and bicycles at home will soon be launched.”

While the rising popularity of EVs has been encouraged by eco-incentives promoted by government in recent years, NAF is concerned that this trend will be interrupted now that they have achieved a degree of market competitiveness.

‘Norway is at the forefront of electric car adoption and we’re helping our members through this major change’



Rising Norwegian racer Dennis Olsen with rally star Andreas Mikkelsen.

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MAKING IT COUNT

With the FIA's 2017 world championships coming to a close, AUTO did some number crunching to work out the stats worth savouring...

TOTAL ENTRANTS PER SERIES



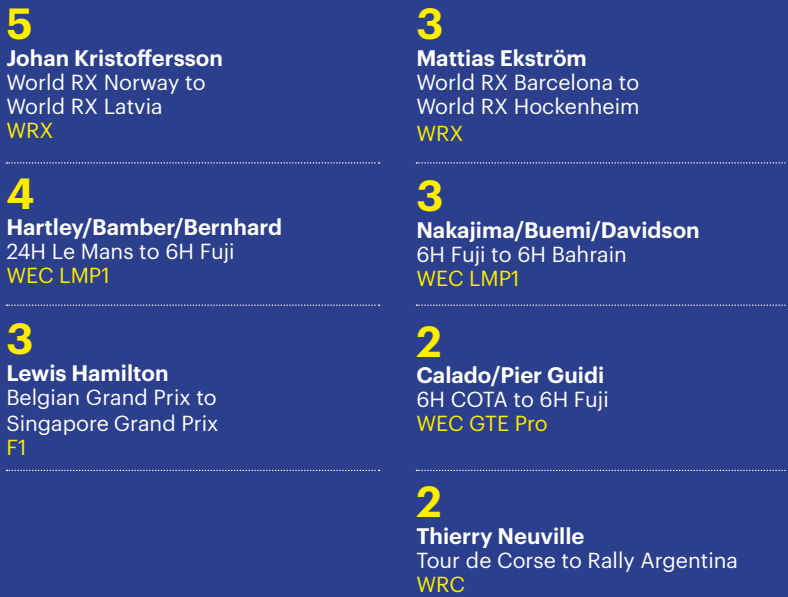
MULTIPLE CHAMPIONSHIP WINNERS



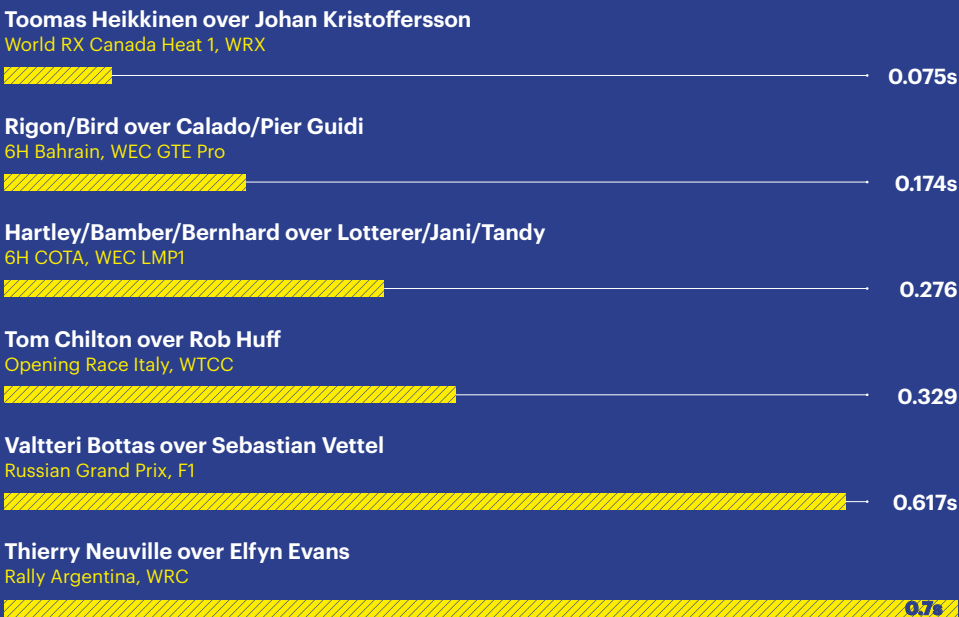
COUNTRIES HOSTING MOST EVENTS



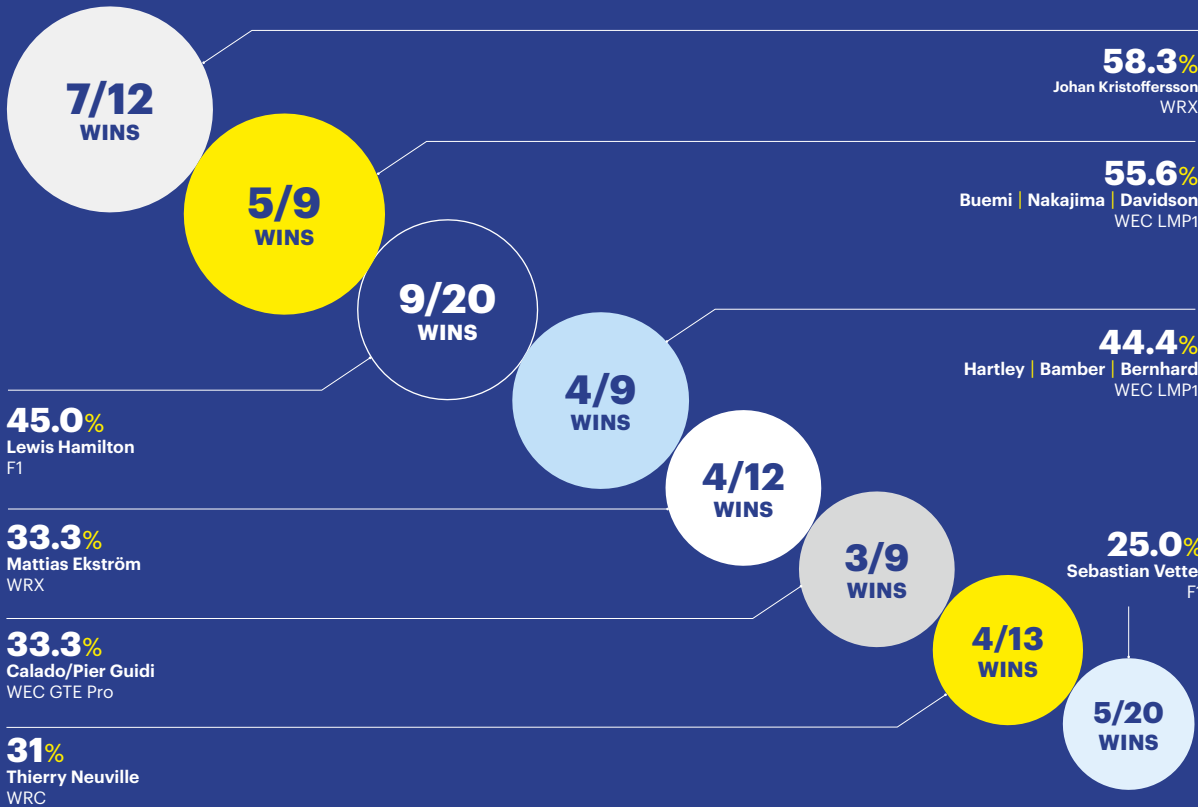
CONSECUTIVE WINS IN 2017



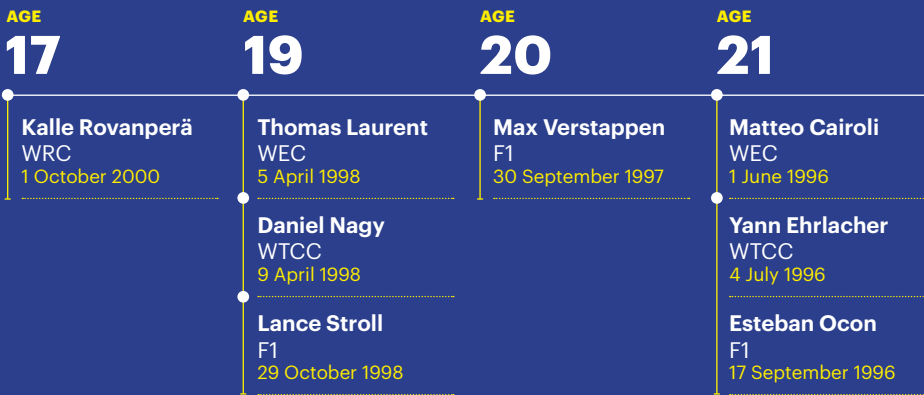
CLOSEST FINISHING MARGINS PER SERIES



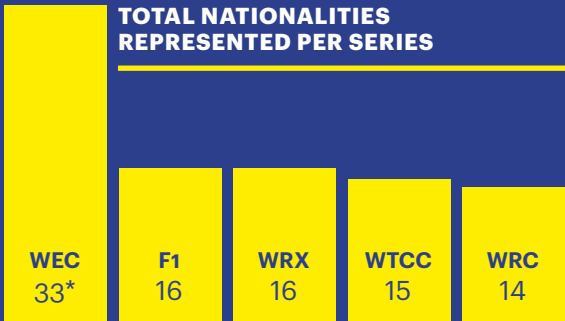
BIGGEST WIN PERCENTAGE



YOUNGEST DRIVERS

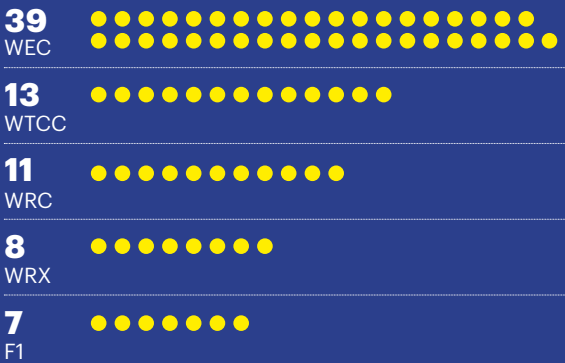


MANUFACTURERS REPRESENTED**



*Includes one-offs such as in Le Mans 24 Hours

NUMBER OF DIFFERENT DRIVERS ON PODIUM PER SERIES



** 'Manufacturer' refers to any constructor, private or works, that maintains a permanent presence in an FIA World Championship series.

FINAL
LAP
the last
word

Felipe, after 16 seasons of involvement in grand prix racing, you're calling time on your Formula One career. It was particularly emotional in Brazil, where you raced in front of your home crowd for the last time. How did that feel?

The nicest memory I will keep with me of my final race at Interlagos is being able to bid farewell to the crowd, which I did from the podium with my son Felipinho by my side. That podium is linked to two of my most vivid memories from my Formula One career: the win in 2006 when I wore a race suit in Brazilian colours, and then in 2008 when I came so close to winning the championship. So to be able to stand on it again with my son, to thank all my fans, was really a very special feeling.

Looking back, are you happy with what you achieved during your career?

I am happy with what I have achieved in Formula One. I have raced at the highest level, for historic teams like Ferrari and Williams; I have won 11 grands prix and two of them at Interlagos, my home race, which for a Brazilian is simply priceless, and I came very close to winning the world title.

There have been some difficult moments, in the sporting sense and otherwise, which helped me grow in stature and become stronger as a driver and as a man. One thing I have liked a lot over the past year, from my first 'retirement' to my actual one, was feeling the affection and respect from so many people in F1, not just those I know best, those I have maybe worked with, but from so many other people.

You've seen plenty of changes in F1 over your time in the sport. How do you see the current climate and the initiatives brought in by the new commercial rights holder?

This is a particularly important moment for Formula One as it goes through some major changes. The arrival of Liberty has definitely brought a breath of fresh air that can only be a good thing.

I was particularly impressed with the initiatives aimed at the fans. The sport definitely needs to be more open, because it had become too closed in on itself. Now, it's a case of laying down the foundations for the long-term future. Formula One definitely has to stay as the pinnacle of motor sport. It has to continue being the series that every driver aspires to, where the best challenge each other in the quickest and most technologically advanced cars. When I was a kid, I dreamed of racing in F1, and I'd like the kids of today and tomorrow to have the same dream. I'm sure the new owners and the FIA, along with the teams and the constructors, will know how to find the best solution.



Felipe's
farewell

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After 269 grands prix, 11 wins and the agony of missing out on the 2008 title by a single point, *Felipe Massa* is bowing out of Formula One. Here, he reflects on his career, his future plans in the world of karting and the fact that in 2018 there will be no Brazilian on the F1 grid...

TEXT
/
LUCA COLAJANNI

You've made no secret of your desire to race on. Have you thought any more about which series you would like that to be in?

I grew up racing and I want to continue racing, but I haven't made a decision yet. I have to say I have been impressed at the way Formula E is growing. Last winter I got the chance to test the Jaguar in Sicily and I had a lot of fun. I like the format, both technically and in sporting terms, which means drivers show how quick they are but also use their intelligence in how they drive.

It was recently announced that you're taking on another role, as President of the CIK/ International Karting Commission. Why?

Because it's something very close to my heart. I took my first racing steps in karting and it

taught me so much about the sport – not just in terms of the pure racing but about competition, fairness, how to win and how to lose and about the joy of motor sport.

FIA President Jean Todt knew I wanted to give something back to the sport and he knows my passion for karting so he offered me this role and I was happy to accept. I'm excited about it. A lot of great work has been done in karting in recent years and I hope to continue that.

Your departure from F1 means that for the first time in almost 50 years there will be no Brazilian driver on the grid. How do you feel about that?

Naturally, I'm disappointed. My country has been an integral part of F1 thanks to drivers such as Ayrton Senna, Nelson Piquet and Emerson Fittipaldi and I am honoured to have been part of it. What is worrying is that there is no sign of anyone coming through in the short term. The economic situation in Brazil has part of it, but it's not the only problem.

To go back to karting, there is no structure to prepare young drivers to move from karts to single-seaters and there is no national series that can get them ready to make the move to Europe, which is still the place that offers young drivers the best opportunities to progress.

I tried in 2010 with Formula Future Fiat, but it didn't work. Today, seeing how Formula 4 is doing well in so many countries, I think Brazil needs a championship like this. We have a new president of the Confederação Brasileira de Automovilismo, Waldner Bernardo de Oliveira, and I really hope that can be a new impetus to do something for the youngsters.



BAHRAIN INTERNATIONAL CIRCUIT
MANAMA, SAUDI ARABIA

LET'S START THE YEAR TOGETHER WITH A NEW PROJECT
all phases from one hand

In 2018 we will be in business for 35 years! In these years we have completed more than 1,000 projects all over the globe. We are the most experienced company when it comes to planning and construction management within the automotive industry and motorsports sector. If you think about to build, homologate or upgrade your track – make sure you have the right partner at your side!

RICHARD MILLE

A RACING MACHINE ON THE WRIST



CALIBER RM 11-03