

AUTO

INTERNATIONAL JOURNAL OF THE FIA



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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 cover of this issue of Auto features the amazing line-up for this year's GTE Pro class in the FIA WORLD ENDURANCE CHAMPIONSHIP. Aston Martin, BMW, Ferrari, Ford and Porsche all have factory teams entered in the FIA WEC with these cars. They, along with fellow competitors in the LMP1, LMP2 and GTE Am classes are all preparing to tackle the most famous and important round on their calendar, namely the Le Mans 24 Hours, which will actually feature twice in this 'Super Season' that ends in 2019.

Elsewhere in this edition, our series of profiles on key players in the automotive world continues in this issue with ANAND MAHINDRA, the man whose forward thinking has led the Mahindra Group to tackle so many different challenges, from working with designers Pininfarina to racing in Formula E.

Not only is Formula E an innovative and very interesting race series, the first, in fact, for single-seaters powered solely by electricity, it has also become a catalyst for ideas and collaborative projects, which are contributing to the creation of a new model for sustainable mobility. That can be seen in the recent extension of the agreement between the FIA and EDF, as well as the FIA's Smart Cities Initiative, which throughout this year will, along with Formula E, stimulate discussion about how cities can grow in a more sustainable and inclusive way, making the best use of innovative technology and calling for effective policy-making.

The FIA is formed of three pillars, Sport, Mobility and the FIA Senate, the body charged with overseeing our management and finances. The three men charged with leading these pillars present their vision for the coming four years and their short-term aims.

In our heritage section, we feature a profile of someone particularly dear to me, namely MICHAEL SCHUMACHER, an incredible champion and a special person. We also take a look at the Circuit Paul Ricard, which this month hosts the French Grand Prix's return to the Formula 1 calendar after a decade-long absence. Finally, Kenya is the country chosen for this issue's look at the FIA family.

I hope you enjoy this issue and, as always, I invite you to send your suggestions as to how we can make the magazine even better.

Enjoy the read,



JEAN TODT,
FIA President

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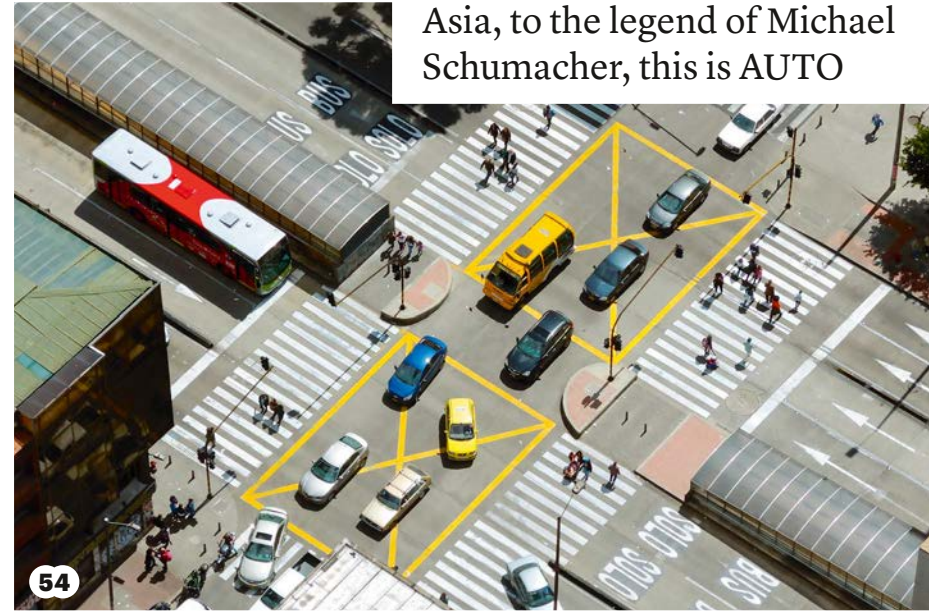
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BRABHAM BT62 A LEGEND IS REBORN

Brabham Automotive has launched its million-pound Brabham BT62, a 700bhp hypercar. The car, the first from the company run by ex-F1 racer and Le Mans winner David Brabham, is a track-only, rear-wheel-drive two-seater powered by a 5.4-litre naturally aspirated mid-mounted V8 quad-cam engine that produces 492lb ft of torque. It has carbonfibre body panels and

weighs 972kg, giving a power-to-weight ratio of 720bhp per tonne. The BT62 title comes from the convention established by the late Jack Brabham's team, which won four F1 drivers' and two constructors' titles. It will be limited to 70 cars to mark the 70 years since Brabham began racing in Australia, and BT62 owners can enter a Brabham driver development programme.

HOW BT62 WILL MARK BRABHAM HISTORY

The first 35 new Brabham BT62s will all be liveried to reflect each of the former grand prix team's 35 world championship race wins. The first car, on display at the London launch event, was finished in the green and gold colours carried by the BT19, which Jack Brabham used to take his team's first win in the 1966 French GP.



WTCR, NÜRBURGRING A CUP OF PLENTY

The new-for-2018 WTCR - FIA World Touring Car Cup presented by OSCARO - stopped off at the legendary Nürburgring Nordschleife in mid-May for three races on the 25.378km layout. Yvan Muller, a four-time World Touring Car champion, was the big winner at the third event of the season with victory in Race 1 and third in Race 3 to take the points lead.

And the veteran Frenchman had more cause for celebration when Thed Björk, who drives a second Hyundai i30 N TCR for his eponymous team, won the finale. Victories for Björk and Muller in Germany, coupled with Esteban Guerrieri's Race 2 triumph, means seven drivers from four brands have won in WTCR, which replaces the World Touring Car Championship.

GOOD LEARNING FOR LESSENES
Benjamin Lessennes, 18, belied his lack of experience with a Nordschleife high of fourth in Race 3. Needing permission from his teachers to miss school and travel from his native Belgium, Lessennes is establishing a glowing reputation with the Boutsen Ginion Racing team, where he's standing in for the injured Tiago Monteiro.



01

NEWS

In this issue: FIA contributes towards new UN Road Safety Trust Fund; ADAC adds support to FIA's #3500LIVES road safety campaign; major car manufacturers step up electric plans; Formula E to make debut in Saudi Arabia

President Todt. "But more can and must be done to decrease global road fatalities." The FIA President believes that education, law enforcement, vehicle standards, infrastructure improvement and post-crash care are all methods that can be used to prevent the figures from rising in developing countries. "The costs of accidents are acute, accounting for a \$1.85 trillion burden on the global economy," he added.

FIA Foundation Executive Director Saul Billingsley said: "The launch of this first-ever UN fund for global road safety is an important recognition that our collective efforts to tackle road safety must be scaled up. We urgently need a massive increase in funding, commensurate to the scale of the problem. With this \$10 million pledge, the FIA Foundation is stepping up. Now we call on others to do the same."

The FIA has been a strong advocate for the establishment of a road safety fund housed within the United Nations, particularly through the activities of the FIA High Level Panel for Road Safety (HLP).

The HLP gathers senior decision-makers from the global business community, international institutions and non-governmental organisations with the goal of building momentum for road safety activities and funding. Two members of the HLP - oil company Total and technology group 3M - backed the fund with financial contributions.

"Millions of lives are at stake," said Todt. "There is now an urgency to mobilise financial resources. I call on all stakeholders, United Nations Member States and partners to contribute to this fund."



FIA President Jean Todt was praised for his work on highlighting road safety issues at the fund launch.



The new United Nations Road Safety Trust Fund was launched at the UN headquarters in New York.

FIA backs United Nations Road Safety Trust Fund

The FIA family has backed the launch of the new United Nations Road Safety Trust Fund, which aims to hugely accelerate progress in improving global road safety.

Aligned with the UN Sustainable Development Goals and the Decade of Action for Road Safety 2011-2020, the fund was launched with support from FIA President Jean Todt and a \$10 million donation from the FIA Foundation.

"The launch of the United Nations Road Safety Trust Fund is a major step forward," said President Todt. "It will serve to galvanise global efforts to address the dire road safety situation."

UN Deputy Secretary-General Amina J Mohammed praised the efforts of President Todt, who is also the UN Secretary-General's Special Envoy for Road Safety, for helping to bring important figures to light and addressing the growing problem of road safety in developing countries around the world. "I thank the UN Economic Commission for Europe and the Secretary-General's Special Envoy for Road Safety, Mr Jean Todt, for their commitment and leadership," said Mohammed.

Around 1.3 million people die from road traffic injuries each year, in addition to the 50 million more who are injured. According to UN figures, road traffic deaths have increased by 13 per cent globally since 2000, with an estimated 90 per cent occurring in low and middle-income countries.

"Building on road safety's inclusion within the United Nations Sustainable Development Goals and the Decade of Action for Road Safety, progress is being made," said



ADAC and FIA promote #3500LIVES at Berlin E-Prix

Germany's ADAC announced its decision to support the FIA's #3500LIVES road safety campaign at the Formula E E-Prix in Berlin.

Germany's Allgemeiner Deutscher Automobil-Club (ADAC) pledged its support to the FIA's #3500LIVES road safety campaign at Formula E's E-Prix in Berlin in May.

The global campaign, produced in partnership with outdoor advertising company JCDecaux, aims to raise awareness of the 3,500 people who die on the world's roads every day. Featuring 14 ambassadors from the worlds of entertainment, motor racing, sport and politics, it promotes simple and universal messages to save lives on roads. In German cities and on the ADAC stand, the emphasis was put on the 'Don't text and drive' message promoted by musician Pharrell Williams.

"Any accident caused by thoughtless texting at the wheel is one too many," said ADAC President Dr August Markl, who joined EU Transport Commissioner Violeta Bulc and FIA President Jean Todt to kick off ADAC's participation in the FIA campaign at the Berlin E-Prix. "Through our commitment to the FIA campaign we intend, first and foremost, to reach young drivers. From extensive studies we know how quickly a chat can become a life-threatening risk."

"This campaign is a significant achievement as it is the first-ever worldwide road safety publicity campaign on this scale," said President Todt. "Everyone has a role to play in making safer roads for all. Individuals have a personal responsibility to behave safely on the roads. Following simple steps can help reduce fatalities. Our #3500LIVES campaign outlines the FIA's Golden Rules that can help save your life and the lives of others."

EU Commissioner Bulc added: "We are standing up for road safety as a human right. Road safety is a global priority, every action can make a difference and the #3500LIVES campaign is one of them. Every life counts. We share and act for the Vision 0 goal."

Commenting on the importance of avoiding distraction at the wheel, Andreas Scheuer, German Minister of Transport and Digital Infrastructure, said: "At 50kph, one second of distraction is like driving with your eyes closed for 14 metres. Your attention can't afford to take a break in road traffic. One single moment of distraction may have horrible consequences. So, never use your phone while driving."

Fatal disconnect in child health policy

The international community is failing to take action on a global health crisis caused by road traffic, according to a new FIA Foundation report launched at the World Health Assembly in Geneva.

The report, Unfinished Journey: The Global Health Response to Children & Road Traffic, released by the Child Health Initiative, identifies road traffic as one of the most neglected issues affecting the global health and well-being of young people.

The scale of the epidemic, which kills 350,000 children and adolescents each year and causes serious harm and injury to millions more, is being recognised and documented by UN agencies, but little or no action follows. This 'fatal disconnect' in policy is failing the world's children.

Calling for the first-ever summit of world leaders on child and adolescent health to urgently re-focus global policy to address this road traffic-related health crisis, the



The FIA Foundation is calling on world leaders to act on the global health crisis caused by road traffic accidents involving children and adolescents.

report argues that the headline figures of child deaths masks the health impact of road traffic injury, air pollution and less active lifestyles.

Zoleka Mandela, granddaughter of Nelson Mandela and Global Ambassador for the Child Health Initiative, said: "I lost my daughter to this man-made epidemic. We need to ask ourselves some hard questions. Are we serious about the health and welfare of all our children? Or are we going to continue to neglect them and allow millions to suffer or die? Our leaders need to start taking the health and rights of young people seriously, and our action agenda provides a clear path forward."



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NEWS Major car brands accelerate electrification

Audi plans to sell 800,000 electrified cars in 2025 as part of a \$40bn investment that covers e-mobility.

A number of major car manufacturers have made big moves towards electric mobility in recent weeks.

Volkswagen and its subsidiaries Audi and Porsche, along with Volvo, have all announced plans to invest further in electrification, with increased electric car production and infrastructure projects playing central roles.

Audi aims to sell 800,000 electrified cars in 2025 as part of its Action and Transformation Plan, which pledges to invest \$40 billion

into areas such as e-mobility, autonomous driving and digitization.

"Our goal is to revolutionise mobility. Also in electric mobility, we want to become the number one among the premium manufacturers – with full suitability for everyday use, no compromises, top quality and driving pleasure for the customer," said Audi's Chairman of the Board of Management, Rupert Stadler.

While Audi intensifies its electric car production, VW is investing in the infrastructure required for electrification by announcing plans for 484 charging stations across the US. Implemented through Volkswagen's subsidiary, Electrify America, the charging sites will be no more than 120 miles apart across 39 states, as VW tackles consumer fears about running out of range between charging points.

Electrify America has chosen several suppliers – including Formula E title sponsor ABB and South Korea's Signet EV – to install the vehicle chargers at each station, 100 of which will feature at Walmart stores in the US.

Porsche intends to install a further 500 fast chargers at dealerships and highway locations in the US by the end of 2019. It will release its first fully-electric car next year and is also considering EV variants of its models including the Macan, Panamera and Cayenne.

Speaking to *Automotive News*, Klaus Zellmer, CEO of Porsche Cars

Porsche is considering an electric version of the Cayenne among other models.



North America, refused to disclose investment figures for the proposed charging points but confirmed that dealerships will have to commit to "six-digit figures" to make the rollout a reality.

Key markets in the US and China have led Volvo to remove diesel from its next-generation S60 range. Lack of demand for combustion-engine cars and interest in the EV sector has prompted the decision, and follows on from the brand's commitment to produce electric and hybrid cars from 2019.

"Our future is electric and we will no longer develop a new generation of diesel engines," said Volvo CEO Håkan Samuelsson. "We will phase out cars with an internal combustion engine, with petrol hybrid versions as a transitional option as we move towards full electrification. The new S60 represents the next step in that commitment."



NEWS Concussion expert wins Watkins Scholarship

Concussion expert Dr Naomi Deakin has been awarded the 2018 Watkins Scholarship, becoming the first doctor to receive the accolade.

The Watkins Scholarship offers a funded research position with the Global Institute for Motor Sport Safety, the research partner of the FIA. Named after motor sport safety pioneer Professor Sid Watkins, the scholarship includes a one-year role with the Global Institute, with the FIA, FIA Foundation and the Global Institute jointly funding the position.

Deakin, who is a Clinical Research Associate in the Department of Neurosurgery at the University of Cambridge, was selected by a panel of experts consisting of Formula One Managing Director Ross Brawn, German Motor

Sport Federation Medical Director Michael Scholz and Global Institute General Manager Research Laurent Mekies.

Deakin will remain in Cambridge but will attend research meetings in Geneva and Paris. As part of the scholarship, she will continue her research into concussion and utilise the Global Institute's engineering expertise to provide important insight into the findings.

Deakin said: "What the Watkins Scholarship will do is allow me to create a vital bridge between motor sport medicine and the engineering aspect of the sport, as one of the things we really want to be able to understand is what the threshold value is for concussion."

Professor Gérard Saillant, Chairman of the



Dr Naomi Deakin, this year's Watkins Scholarship winner, will work with the Global Institute for Motor Sport Safety on the effects of concussion.

Global Institute's Research Working Group and President of the FIA Medical Commission, added: "Dr Deakin will bring a wealth of knowledge and expertise to our research work. Her proposed studies on concussion are an excellent example of our multi-disciplinary approach, combining the work of doctors and engineers to improve motor sport safety."



NEWS **FIA Innovation Fund selects first projects**

The first projects to benefit from the newly-created FIA Innovation Fund have been selected by the body's steering group.

The FIA European Young Women Programme aims to increase the participation of young women in motor sport, reaching a new audience of more than 3,000 non-licensed 13-18-year-olds and identifying talented young drivers. The project has already secured co-funding from the European Commission.

The FIA Youth Olympic Games Project seeks to capitalise on the FIA's recognition by the International Olympic Committee (IOC), notably through the promotion of electric karting as an emerging discipline.

Additionally, it is envisaged that the project will provide a new platform to reinforce the FIA's advocacy for road safety through the #3500LIVES campaign.

Finally, the Track to Road – FIA Expertise Development into Helmets, which has been approved in principle pending further information, aims to transfer motor sport safety knowledge to the benefit of road users, initially through the domestic motorcycle helmet industry and subsequently to other non-motor sport helmet applications, such as for bicycles.

The aim of the FIA Innovation Fund, as approved by the 2017 FIA Annual, is to allocate proceeds from the sale of the FIA's one per cent share in Formula 1's Commercial Rights Holder to Liberty Media, to support new and worthwhile ideas that will generate lasting benefit for the FIA community.

NEWS **Saudi Arabia set to open 2018/19 Formula E season**

The 2018/19 season of the FIA Formula E Championship will make its debut in the Middle East at the Saudi Arabian capital, Riyadh, in December.

It will mark not only the first appearance for the next-generation car launched earlier this year, but also the first time an international FIA single-seater championship has ever raced in the country.

"Saudi Arabia is looking to the future and Formula E is the motor sport of the future, so that's why this is such an exciting opportunity," said His Royal Highness Prince Abdulaziz, Vice-Chair of the Saudi Arabia General Sports Authority. "It aligns perfectly with the country's 2030 vision and offers the prospect of world-class racing on the streets

of the capital for the first time in our history."

The Saudi Arabian government is concentrating efforts more on the development of new technologies, renewable energy and electric vehicles, which it hopes to showcase through a 10-year agreement with Formula E that Abdulaziz said would create a "lasting legacy for both the sport globally and the Kingdom".

The cars will navigate through the streets on the outskirts of Riyadh, with further details on the circuit layout to be revealed in due course.

"We think Saudi Arabia – with the new vision of Prince Abdulaziz, Prince Khalid and the country – is a fitting location to launch the latest chapter of the electric street racing series," said Alejandro Agag, Founder and CEO of Formula E. "Many other sports are already increasing their presence in Saudi Arabia and we're proud that they've chosen Formula E over other categories in racing."

Formula E will debut its Gen 2 racer at Saudi Arabia in December, marking the first time an FIA single-seater championship has raced in the country.

The FIA European Young Women Programme (below) is one of the projects to benefit from the new FIA Innovation Fund.



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QUESTION:

'HOW WILL THE UN'S NEW ROAD SAFETY FUND HELP SAVE LIVES?'

02

As the UN launches its Road Safety Trust Fund, AUTO asks three members of the FIA High Level Panel that helped define the scheme how it can make a real difference on the world's roads



Bertrand Badré

BERTRAND BADRÉ CEO, BLUE LIKE AN ORANGE SUSTAINABLE CAPITAL

The United Nations Road Safety Trust Fund is a project that the FIA's High Level Panel for Road Safety has worked on for some time. Our objective was to deliver on the aims of the UN's Decade of Action for Road Safety and Sustainable Development Goals by establishing a financial receptacle through which money is channelled towards saving lives on the world's roads, and I'm delighted that we have secured this outcome.

However, the devil is in the detail, and now the work begins to ensure that it is going to function as designed and achieves what we set out to do.

We must make sure it delivers, it is effective and innovative, has good governance and that there is no ambiguity in its objective. It's really important that now it is in place we do not step away and continue to development its potential. In this regard, I see the FIA's High Level Panel as 'guardians of the fire'. We have to constantly remind people that it must remain at the forefront of progressive thought on this issue and builds on the original momentum and concept.

In terms of mobilising resource, one of the most important but challenging aspects, as it's something I've experienced, is how it combines public, private and civil society influence. When you discuss road safety, every area has a role to play – public in terms of legislation and regulation, private in terms of manufacturers, insurance bodies and companies that have a commercial interest in road safety issues and, finally, civil society, as ultimately this is where the scourge of road fatalities and injuries hits hardest.

The right co-operation is essential.

From the design perspective, it's also important that funding doesn't just come from public money. In another life I was involved in the development of the levy on plane tickets, where the idea was that a micro-contribution from a big ticket item, in this case plane tickets, could make a real difference, and through that we were able to raise billions of dollars for medical research.

I have the same vision for road safety: some form of most likely voluntary contribution from a car-related purchase – from tyres, oil, insurance. However, if you want to make money in that space, you need to convince those organisations it will be used properly, and

that is where the 'guardians of the fire' will have a role, especially when it comes to convincing the private sector to get involved.

In terms of how the funding is allocated I don't think the purpose is to finance infrastructure. That is expensive and on a different scale. The beauty of the drive for road safety is that we know what is needed to address the issue and in general it is not that expensive. That is why this fund can make a difference. To persuade people to fasten their seatbelt or to buy a helmet is not very expensive. That's why it is such an interesting project – the solutions do not require a multi-billion dollar fund.

My hope, in the long run, is that it will really be a catalyst for change. This fund should be a great example of public, private and civil partnership. We have to be effective, innovative and cost-efficient, and with that objective in mind we need to say to countries where need exists 'OK, if you make road safety a priority, we are here to help with our money but also with our supporters in every sphere'. That way we can help save lives.

PATRICK POUYANNÉ CHAIRMAN AND CHIEF EXECUTIVE OFFICER, TOTAL

Early this year, Jean Todt, President of the Fédération Internationale de l'Automobile and the UN Secretary-General's Special Envoy for Road Safety, approached Total to become a founding member of the new UN Road Safety Trust Fund. It did not take long for Jean Todt to make his case and for the company to decide that the initiative was a perfect fit for Total.

First, because safety is one of our five values. In the industry as a whole and at Total in particular, we are constantly looking for ways to improve safety and make sure our people go home safe. Because safety is the cornerstone of our operational excellence.

Second, because road transportation is an integral part of Total's businesses. Trucks carrying our products travel 700 million kilometers a year to and from our refineries, service stations and plants in more than 100 countries. As well, over 8 million customers stop at our service stations every day to take a break, fill up and go on their way. We are the leading fuel retailer in Africa, a continent where tackling the dangers of the road is a priority, in particular for young generations. Few companies have Total's extensive experience of the potential risks and are as concerned as we are about making roads safer.

But apart from our business concerns, we consider it our civic duty to help educate people about roads. For that reason, our corporate citizenship program, carried out under the Total Foundation label, has made road transportation, and road safety in particular, one of its four areas of focus.

Fatalities do not have to happen. As Jean Todt rightly says, road accidents are a pandemic

for which a cure exists and has been identified: equal parts education, training, improving standards, and enforcing laws and regulations. The target of halving the number of deaths and injuries from road accidents is achievable. The Road Safety Trust Fund will allocate funding where it is needed, locally, to make progress. It is a matter of political will and informed earmarking of resources.

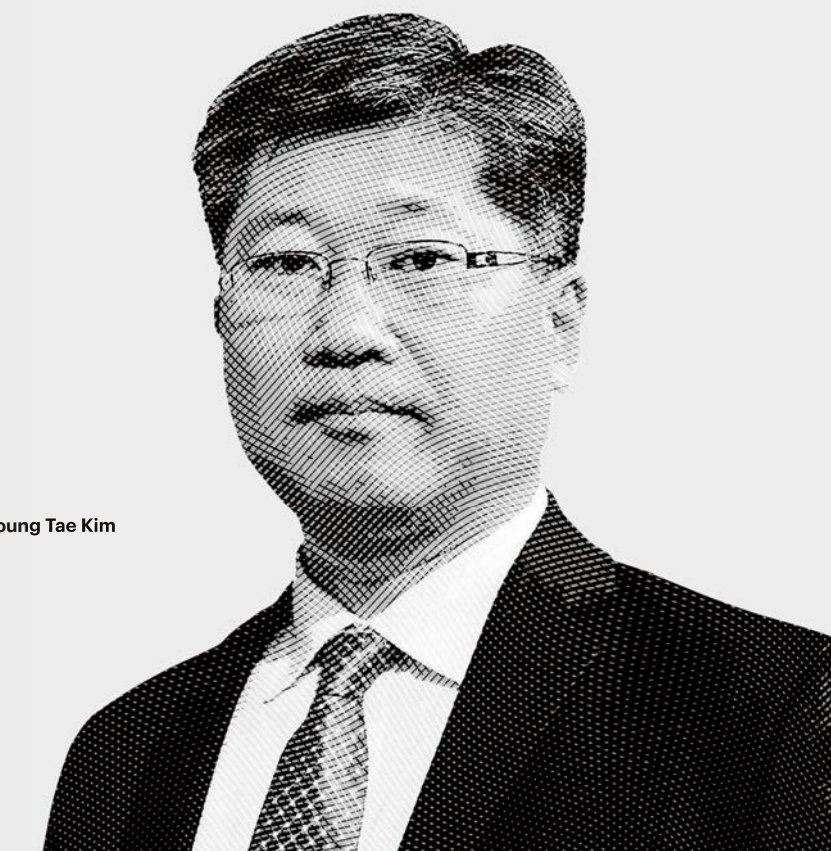
I believe setting up this fund is a major milestone in the global commitment to road safety. That is why I am very pleased that Total is part of it, and will do what it takes to drive positive change.

I hope that together with the other founding members of the Fund, we can convince many other private donors to join. We have committed \$1 million to get the fund started, but we are above all committed to advocating for it, to supporting it in any way possible and to leading by example. As our ambition is to become the responsible energy major, that is the least we can do.

YOUNG TAE KIM SECRETARY-GENERAL, INTERNATIONAL TRANSPORT FORUM

Road safety is hugely underfunded considering the number of lives lost and the human suffering. There are also economic costs, estimated at between two and five per cent of GDP.

The UN Road Safety Trust Fund can make a real difference by providing the means to put into place policies that are known to reduce the unacceptable number of road casualties. It can become a catalyst that not only attracts funding for road safety in a co-ordinated manner from diverse donors; it could also play a central role in



Young Tae Kim

managing the scarce resources available for road safety in an effective and sustainable way. Not least, the Road Safety Trust Fund could become a vehicle to leverage additional funding. The UN Economic Commission for Europe estimates that every USD 1500 contributed to the fund could result in USD 51,000 being invested in road safety.

The fund is a singular opportunity to persuade a wide range of donors to give money for road safety. These potential donors include very different entities – governments, the private sector, philanthropies. The challenge will be to keep up the momentum over the coming years and feed the fund in a sustainable way. The idea to involve the automotive industry through a contribution for each car or tyre sold could give road safety a reliable stream of funding.

The fund should prioritise projects in poor countries. A lack of financial resource is a real impediment to start concrete actions to reduce the number of road deaths. Also, the fund should strongly involve governments from beneficiary countries to build commitment for long-term action to improve road safety.

Most low-income countries need funding in a whole range of measures: road construction and maintenance, education, traffic policing, emergency response and health services. All these areas are important. But without adequate capacity, any road safety investment has little chance to provide lasting effect. Building the capacity for safety management is an imperative.



Patrick Pouyanné

Japan's rising son 03

TEXT

ANTHONY PEACOCK

Most people looked at Takamoto Katsuta's victory on the WRC2 class in Sweden this year – just one rung below the main World Rally Car category – and wondered how it was possible that a little-known driver from the Far East managed to beat a number of factory teams and local experts on one of the most specialised events in the FIA World Rally Championship.

But it makes some sort of sense when you consider that the Toyota protégé's father is Subaru factory driver Norihiko Katsuta: an eight-time Japanese rally champion, and the current holder of the title.

Over the years, one of Katsuta Senior's key rivals has been Toshi Arai (who competed on a number of WRC events with Subaru in the 1990s and 2000s). Underlining the circularity of history, Katsuta Junior's team-mate at the Toyota Gazoo Racing Rally Challenge Program (to give the manufacturer's young driver scheme its full name) is Hiroki Arai – of course, the son of Toshi. It's an even odder coincidence given the somewhat circuitous route Katsuta Jr took to reach the stage he's now at.

Like most youngsters, he began his career in karting, a little later than most, at the age of 12. Despite the delay, he proved to be a natural talent and two years later his life changed thanks to a karting scholarship from Toyota. He's been with the manufacturer ever since.

Katsuta's career looked set to continue on the classic single-seater trajectory: he kept his Toyota backing and switched to cars with the single-make Formula Challenge in 2010, won the title a year later, and then stepped up to Japanese Formula 3 in 2012, finishing second in the highly-competitive series in 2013.

It was at that point that things started to get interesting. Katsuta realised that with Toyota having withdrawn from Formula 1, his dream of competing at the top level in European single-

A former single-seater racer from Japan switching to rallying and beating the local specialists at Rally Sweden? It sounds impossible, but *Takamoto Katsuta's* WRC2 win on the snow and ice have marked him out as a potential stage star in the making

seaters with manufacturer backing was going to be a struggle. So, at the same time as competing in F3, he entered a few rallies. He won on his debut. And from then on, there was a new (or rather, inherited) itch that needed to be scratched.

"Obviously I had been around rallies from a young age with my father, even before I started karting," explains Katsuta, known as 'Taka'. "I'd always known that one day I wanted to drive a rally car, because I had this passion for rallying. And then I heard about the Toyota programme for young rally drivers, and I thought, why not try? With Toyota, I have the chance to go all the way to the top and drive the Yaris WRC in the world championship. When I was in F3, although I liked it, the next move would have been Super Formula in Japan, but there were no guarantees after that. And I wanted to drive internationally, to move on to something different from Japan."

So he took the plunge and got his wish. After being selected for the Challenge Program in 2015 by four-time world champion Tommi Mäkinen, who heads up Toyota's factory team, Katsuta moved lock, stock and barrel to Puuppola, a small



Toyota protégé Takamoto Katsuta marked himself out as one to watch when he won the WRC2 class on this year's Rally Sweden.

town in central Finland not far from Jyväskylä, where Rally Finland is based. It also happens to be Mäkinen's home town, and the headquarters of Toyota's rally team.

Paired with Finnish co-driver Marko Salminen from 2017 (his previous co-driver was Dan Barritt, now alongside Elfyn Evans), Katsuta embarked on a programme of around 15 events per season two years ago, taking in both asphalt and gravel. The rallies aren't just world championship events: the idea is for Toyota to take their young drivers to the most specialised and educational events they can find, throwing them in against some hardened local experts.

"With Marko I have a very good feeling, but I must thank all my co-drivers as I have learned so much from them and have so much respect for them," explains Taka. "With the driving, I always felt quite good in the car, but the big difficulty was adapting to pace notes: it was hard for me to learn to trust them, especially in changing conditions. In racing you have to deal with just a few corners per lap, on a rally, thousands! It seemed impossible at first. But with Marko, we did maybe

10,000 kilometres of pace note practice. And because he has driven rally cars, he understands the situation from my point of view. So, he has been a really important part of my learning and of course I need to thank him for that."

That full Finnish immersion and new-found trust in his pace notes was perhaps the key to Katsuta's astonishing performance on Rally Sweden (up to then, his best result had been third in Italy). But that still didn't make it any less remarkable – even for Katsuta himself.

"I knew we had the chance to do well in Sweden, but I never expected to go that well," he says. "There was no big secret to Sweden: I just felt

'Rallying is all about experience, and I know what a big jump it is to the really fast WRC cars. I have to work hard'

confident in the car and the notes, I like fast roads and I'm used to them because I live in Finland, and we had no problems. It was just all those things put together. I'm hoping we can get a good result on Rally Finland this year too, for the same reasons."

Yet the biggest reason why Katsuta stands a very good chance of being one of his country's leading exponents of rallying is that he realises he has so much to learn still – and he is being given the perfect opportunity to do so. He plans on another two years of apprenticeship, so is in no hurry to move up to the top class before 2020 or 2021. So far, he hasn't even tested the Yaris WRC.

"Rallying is all about experience, and I know from speaking to [Toyota factory driver and former WRC2 champion] Esapekka Lappi just what a big jump it is to the really fast WRC cars compared to WRC2. Then you look at drivers like Kalle Rovanperä, who is coming into WRC2 and is so fast straight away, even though he is so young. Crazy speed. I can see how much I have to learn and improve, but that is a very big motivation for me. I have to work hard to try and get there."

Katsuta's work ethic and pragmatism are exemplary: when he's not driving, he's in the factory in Puuppola at the workshop, or talking with the drivers, or taking part in his carefully-structured physical and mental training programme. At Puuppola, in a typically Finnish understated way, they've created a perfect mould to shape the next generation of rally drivers, away from the public eye. So results such as Rally Sweden shouldn't come as a huge surprise when you look at the backdrop. Context is everything.

Not only is Taka's father a rally driver but so was his grandfather Teruo: winning his class on the 1983 RAC Rally in a Toyota Corolla. "I'm very proud of this family history and so happy to continue it now," concludes Katsuta. "It's not just my dream to compete at the top of the WRC but also my dad's dream, because it was something that he never quite managed to do. If I make it, it's for him as well." ◀

Below: The 25-year-old is part of Toyota's young driver programme, here competing on this year's Tour de Corse in a Tommi Mäkinen Racing-run Ford Fiesta.



04

BODY GUARDS

Karters put their bodies on the line every time they go racing. This is why the FIA has developed a new standard for rib and chest protectors that will prevent injuries across the sport

TEXT
/
MARC CUTLER

Aspiring Indian karting talent Shahan Ali Mohsin hopes to emulate his idol Fernando Alonso, having already won the 2016 Asian Karting Championship and the Indian National Championship twice.

The 13-year-old was tipped to compete in this year's prestigious Trofeo Andrea Margutti Karting race in Italy but withdrew after just two practice sessions due to pain from a relapsed rib injury sustained in a race last year. Ali Mohsin was told by medical specialists that it could take between 10 to 12 weeks to fully recover, preventing him from competing in the following CIK-FIA Academy Trophy, a potentially career-defining race.

It is an all-too common issue in the competitive world of karting, the only motor sport discipline that does not require racers to wear a harness. Drivers sit in rigid seats that expose the upper part of their body as it is subjected to bumps and knocks induced by high grip levels.

They have the option to wear body protection along with their overalls but for the moment it is not mandatory. Even for those who choose to do so, they do not necessarily know if the equipment they are using meets the standards required to protect them.

The FIA is planning to change that with the first-ever Karting Body Protection Standard, which is set to be discussed by the World Motor Sport Council this month and if approved is set to become mandatory by 2021.

"We know that there are a lot of drivers already using chest and rib protectors but currently there is no FIA standard, so there is no way for the drivers to know what is a good protector or not," says Nuno Costa, FIA Head of Safety Equipment Homologation. "The target is to design and put together a protector that can give protection to the rib and chest at the same time, and become standard across the sport." ▶

The FIA is developing a new safety standard for karting to protect drivers who are vulnerable to rib and chest injury.



INDUSTRY SUPPORT

The standard has been a decade in the making with consultation from the FIA's Industry Working Group to ensure that the product will be a cost-effective solution for drivers at grassroots level.

Stefano Begnozzi, founder of protective equipment manufacturer Bengio High Safety Tech, believes it is vital for drivers to be protected every time they get into a kart.

"We believe it's absolutely essential that kart drivers wear a rib and chest protector, not only to protect themselves in case of an accident but always," says Begnozzi. "Every time a driver sits in his seat he is subjected to strong and continuous shocks caused by the very rigid chassis, which over time can cause serious injury to his ribs."

Begnozzi started his company after his son Alessandro, a promising kart driver, suffered a serious chest injury in an ordinary race accident which almost forced him to quit racing. He now produces high-tech carbon fibre and Kevlar reinforced products.

Along with Bengio products, there are some other rib and chest protectors already on the market, including the Alpinestars Bionic rib support brace that uses fibreglass to disperse energy away from the impact point and poly

fabric to protect against abrasion. OMP also offers a rib waistcoat that uses a carbon shell and padded interior for comfort, and has buckle-less closures for extra safety.

Now the FIA wants to ensure that these products not only meet the highest standards but also become mandatory for all championships run by the CIK-FIA, karting's governing body.

"What we found is that in the market we have some really good rib protectors, which deliver the safety standard that drivers need," says Costa. "But there are also some protectors that the drivers use which do not give any sort of protection in the important areas."

The new FIA standard is for a combined chest and rib protector that drivers can wear under their race suits. It will be designed to protect against three forms of injury: impact with flat or curved structures; impact with steering wheel or edge of seat; and impact with steering column. It will be made to withstand 60J of energy to the chest and 100J of energy to the ribs, ensuring that the force transmitted to the body is no more than 1kN during an impact.

All parts of the product will be permanently connected and must allow for free movement of the arms, body, head and neck while being worn. Drivers will be able to tailor the vest to

their body size to ensure that it is comfortable, with dedicated versions for female drivers to be made available.

Manufacturers will even be given time for their product to be used on track before it is made compulsory, to allow them to catch up with existing products and to ensure that drivers are satisfied with how it performs.

"The target is to make it recommended until December 2020, and then from 2021 it will be compulsory," says Costa. "And the reason is because we need to give time for the industry to come up with final products and to approve them, and to make them available on the market."

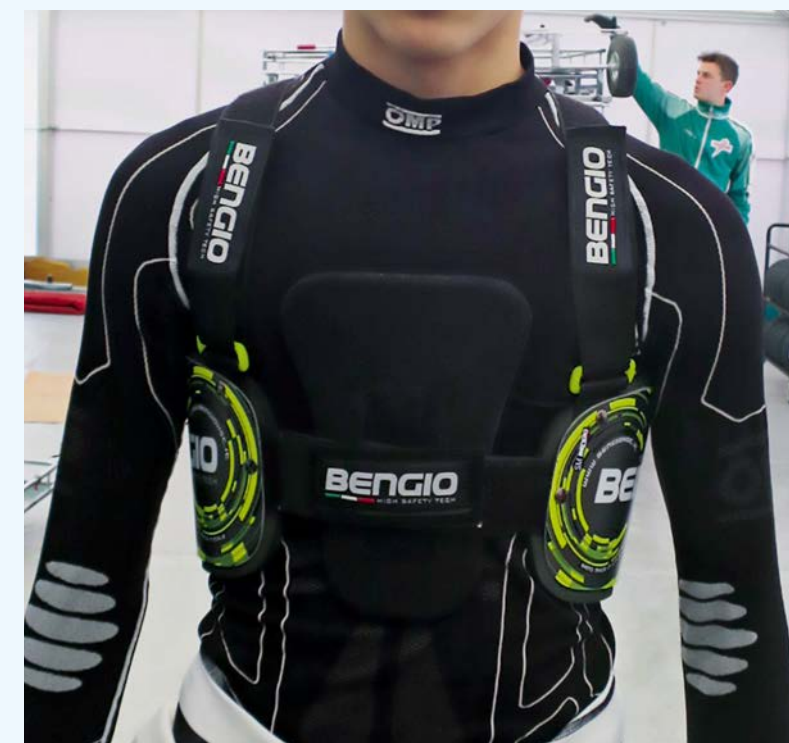
"This will give manufacturers time to build new products that can meet the FIA standard and give time for the drivers to use them."

QUALITY ASSURANCE

Steve Tillett, owner of Tillett Racing Seats, believes that the standard will help drivers in determining which products offer protection, versus those that claim to be up to standard.

"I'm fully in support of the rib protector element of this standard," says Tillett. "Because you get a situation where there are products on the market which aren't up to standard, but they

At the moment karters have the option to wear body protection, but it is not mandatory. That may change for 2021.



Prototype rib and chest protectors based on the standard have already been tested at the track by safety equipment manufacturers such as Bengio.



purport to be up to standard, so it's misleading for the customers."

Tillett has a history of producing padding for karting seats back when he used to compete in 1978, which then evolved into rib protection for drivers. He even worked with 2014 World Endurance Champion Anthony Davidson in the early stages of his career.

"I constructed my whole business based on the fact that [karting] race seats damaged people's bodies," explains Tillett. "The pressure on the ribs is quite severe, as the whole weight of the driver is taken on the ribs."

"I had such a problem with a driver called Anthony Davidson that I started to bind them up," says Tillett. "I made a double density foam around the ribs and ended up making this rib protector which wasn't really on the market. I actually laminated a rib composite protection around him, and that was when he got his works drive," adds Tillett. "I made this composite rib protector around his chest that worked, and got him racing even though he had broken ribs."

However, Tillett is not a fan of the chest protection element of the FIA standard as he believes it will be uncomfortable for drivers to wear under their overalls.

Yet the same was said about the HANS device, that helps protect the head and neck of a driver, when it was first launched. Back when Formula 1 tested the device in 2001, there was a lot of apprehension over how much it restricted the driver in the cockpit. World champions such as Jacques Villeneuve notably voiced their concerns but as the design was refined, more championships started to adopt it. Now you would find it difficult to see someone racing competitively without using a HANS device, even down to National Formula Ford level.

Begnozzi believes that the new Karting Standard will have the same effect on the sport.

'A driver is subjected to strong and continuous shocks, which over time can cause serious injury to his ribs'

"Drivers don't like the news, but this standard will give them more protection and safety," he says.

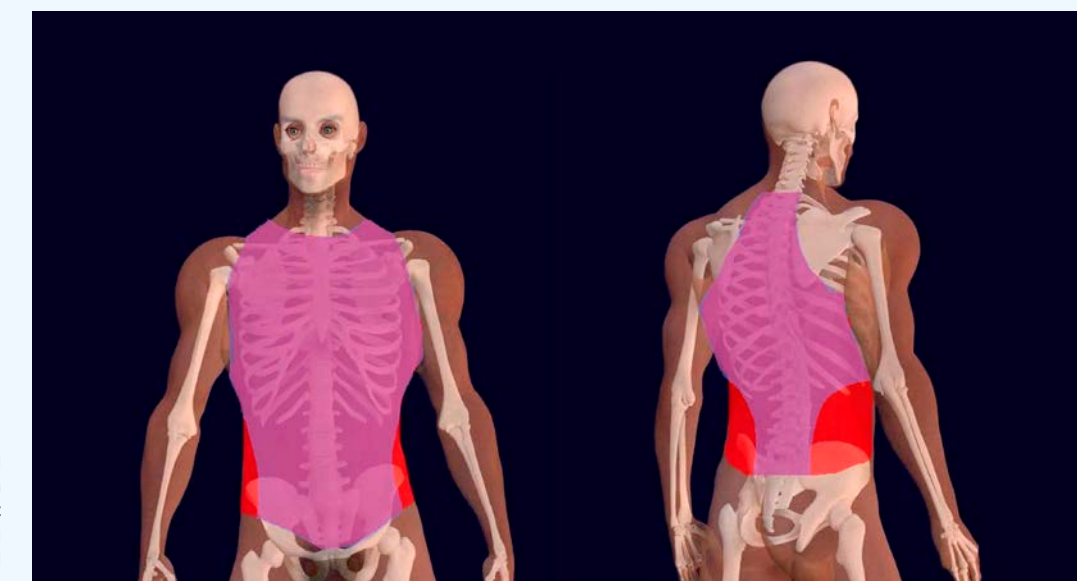
Certainly, the data suggests that a chest protector has become necessary in karting. A review from the DMSB, Germany's national sporting authority, found that many karters had suffered thoracic injuries.

"Setting fresh standards for a product has been quite challenging because some manufacturers were not sure about the need of the chest protector," admits Costa. "For the rib

protector there is not a challenge at all because when you go to the international competitions all the drivers are already using the rib protector as they need it to be able to drive the kart. They apply a lot of lateral force against the seat and they need the rib protector to protect themselves from injury or from getting pain.

"For the chest protector there is more negativity because some manufacturers didn't see so many accidents where drivers would get injuries to the chest as they saw with rib injuries, so from their point they are more reluctant about the need for these sorts of devices. But the data that we have available, for example from the DMSB, shows that drivers do get injured in this area and we want to protect them."

It is all part of the FIA's safety focused work across motor sport. Whether it is the Halo frontal protection device in Formula 1 or body protection in karting, the FIA is determined to ensure that safety always comes first. ◀



The FIA has developed a standard for a combined rib and chest protector for karting that it wants to be used in all CIK-FIA series.

THE LONG RUN:

FIA WEC in Focus

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Racing on a grand scale

The auto makers preparing to do battle in the GTE Pro class

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FIA tech chief Gilles Simon on the future of endurance racing

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Race to new frontiers

The growing number of drivers chasing glory in a mix of race categories

05
RACING ON A GRAND SCALE

TEXT

TONY THOMAS

With five of the world's premium car brands battling for supremacy on a grid populated by some of the world's finest drivers, the GTE Pro class of the FIA World Endurance Championship is fast becoming one of sportscar racing's most thrilling competitions...

Porsche, Aston Martin and BMW will take on the might of Ferrari and Ford in this year's WEC GTE Pro class.



A wishlist of 'golden names' to include in any sportscar racing championship might run like this: Porsche, Ferrari, Ford, Aston Martin, BMW. Each has thoroughbred racing history, with victories across the globe in a plethora of categories; each resonates with the echo of stirring deeds through the decades.

So for purist or casual racing fans, the line-up of hardware arrayed for the 2018 GTE Pro category of the FIA World Endurance Championship is enough to induce a little weakness at the knees. Porsche brings the 911 RSR - a mid-engined twist on the classic 911 theme; Ferrari fields the 488 GTE Evo; Ford's GT is the nearest thing the category has to a pure-bred racing machine made legal for the road; Aston offers the new twin-turbo Vantage, while new boys BMW have their M8 GTE.

It's a line-up to die for, as each model would chart high on the 'dream garage' wishlist of any fan of motor sport. And that's precisely the point: while these manufacturers will compete wheel-to-wheel throughout the 2018-19 WEC Super Season, the manufacturers behind their entries are fighting just as hard off-track for

'At Le Mans there will be 17 cars in GTE Pro, which means 17 top teams and 51 world-class drivers. It will be the race of races'

FRANK-STEFFEN WALLISER



Aston Martin driver Darren Turner relishes the prospect of close racing in GTE Pro, so he can feel he's worked hard for a victory.

market share and brand lustre. So a high-profile racing category with regulations framed explicitly to lure manufacturers with the promise of being able to showcase 'product' that looks an awful lot like what's available in the showroom is a compelling proposition. The entry list proves it.

Those in charge of both the championship and its race teams are - predictably - vocal advocates of the category's merits. Paul Howarth, Aston Martin team boss, is firmly in the 'bring it on' camp as regards manufacturer-backed GTE Pro entries: "If you're fighting against the best in the world it only promotes the brand and the championship at the highest level," he says. "The more you can beat, the more competitive spirit it brings, which lifts the championship and creates better racing - it pushes every team to really fight."

The sentiment's echoed by one of his lead drivers, Darren Turner, who's relishing the prospect of battling a strong field held together by rules designed to encourage close racing (a closely monitored 'Balance of Performance' [BOP] equation is intended to prevent any one team from dominating): "For a driver, the more competitors there are, the higher the level of competition," he



BMW Motorsport boss Jens Marquardt says the M8 is a car customers can relate to more readily than a high-tech prototype.

says. "You don't want to turn up at a race and have such an advantage that you're just picking up a trophy. That's not what sport should be about. If you win you need to feel that you deserved that win and that you worked very hard to get it."

TOUGHEST RACE EVER

And work hard he will have to, as will all Turner's rivals, if they are to establish any kind of advantage. Indeed, Porsche's head of motor sport, Frank-Steffen Walliser, reckons the WEC GTE Pro category to be the most competitive racing arena anywhere on the planet: "At Le Mans this year," he says, "there will be 17 cars in GTE Pro, which means 17 top teams and 51 world-class

drivers - all of them racing for 24 hours. It's really, really great competition and it will be the toughest, most competitive race ever, if you ask me. There's no category in the world that has 17 full factory entries. It will be the race of races."

Quite a claim - but with round one of the 2018-19 Super Season - the Spa Six Hours - already run, the intensity of competition that's likely to be seen in GTE is obvious. At the Spa chequer, the class-winning Ford GT was only 14 seconds ahead of the second-placed Porsche, after six hours and 148 laps of racing. That's the ideal kind of result for a category in which all manufacturers must feel the benefit of their involvement and be able to relay a story of success to boards of directors and the paying public alike. ▶



Porsche head of motor sport Frank-Steffen Walliser says the 911 (left, in RSR guise) is part of its DNA, with the manufacturer already having proven its worth in prototype racing.

"At Spa the lead positions in the LMP1 category were established by about half distance," says series promoter Gérard Neveu, "but in GTE we still had a fantastic fight going on. So the TV directors switched to that instead. This is an important point for us: to maintain visibility of GTE within the overall WEC package. It's the reason why the GTE drivers have their own podium at the end of the race, for example."

ROAD CAR RELEVANCE

The booming manufacturer presence in GTE is made all the more obvious this season by the dearth of manufacturer teams in the once-dominant 'halo' class, LMP1 – a category for purpose-built, race-only prototypes.

Only Toyota are contesting LMP1 as a manufacturer and their involvement is driven by a desperate corporate ambition to win Le Mans outright this year – which quest has led to their signing double F1 world champion Fernando Alonso to boost their driving strength.

This kind of 'throw-the-kitchen-sink-at-it' approach is an outlier now, however; the appeal of funding hugely expensive race teams to build stunning machines which flaunt the peak of racing technology is waning for manufacturers who can instead make an explicit link between motor sport and road cars by competing with road-legal models. The road-racing connection is even made explicit in the GTE rule book: "The 'Le Mans' Grand Touring Endurance car (LMGTE) is a car having an aptitude for sport with 2 doors, 2 or 2+2 seats, opened or closed, which can be used perfectly legally on the open road and available for sale thanks to the dealer network of a manufacturer recognised by the Endurance Committee."

BMW Motorsport boss Jens Marquardt is typical of his peers in evangelising about the merits of preparing a top-end road car – in BMW's case the M8 – for high-level sportscar racing: "It's very easy," he says, "because this is a car that

customers can relate to. LMP1 is all about technology – very expensive technology – which at the end of the day may not be so relevant. But the M8 competes against Porsche and Aston Martin models in the showroom, so it really makes sense that they are our competition on the race track, too. In the past we haven't had the ideal car to use for GT racing – particularly thinking about Le Mans – but with the M8 we can have the right kind of package. The board gave us the 'OK' to race it even before it is in the hands of our customers. It's very important to BMW as a brand, which makes it such an exciting project."

Those associated with the GTE class exude a genuine sense of enthusiasm for their category, perhaps enjoying the sense that what might be a golden age has come for a class of cars that are already thrilling on the road, made even more so through a racing programme.

"The GTE class speaks to the core of our brand," says Porsche's Frank-Steffen Walliser. "We have shown what we can do in prototypes over many years [Porsche has 19 Le Mans victories, most recently in 2017] and now we are in a more strategic phase with 'Mission E', which will take us into Formula E next season. But the 911 and sportscars are the DNA of Porsche and in GTE we will be keeping the flame of the 911 alive." ▶

'The M8 competes against Porsche and Aston Martin in the showroom, so it makes sense they are our competition on track too'

JENS MARQUARDT



WEC series promoter Gérard Neveu says the close competition in GTE compared to LMP1 in round one at Spa was clear for all to see.



Ford (right) was first to GTE Pro honours in 2018, winning the class in round one at Spa by just under 14 seconds from Porsche...

... But Ferrari (left) remains the team to beat in GTE Pro, having claimed the first FIA World title in 2017.

Surely music to the ears of any motor sport enthusiast, for the investment in road-based racing programmes is taking 'showroom' cars into the realms of exceptional performance. WEC GTE cars might look familiar, says BMW factory driver Antonio Felix da Costa, but they drive like pure-bred race cars: "I left my first test in Budapest smiling a lot," he says. "They are very, very close to the DTM [Germany's premier touring car category] in terms of performance. Even with high fuel and on long-run test programmes the lap times were good. There is so much potential here: the cars are a lot of fun and we know there will be close battles with Ferrari, Porsche, Ford and Aston Martin. There's a great spirit between the manufacturers."

SPREADING SUCCESS

What happens, though, if only one or two of those heavily committed car makers does the winning? Porsche does not want to be beaten by BMW, nor Aston by Ferrari... What risk of manufacturers pulling out – always a possibility in any class of motor sport – if they deem it's not working to their advantage?

The trick, reckons Neveu, is to try to keep all at least reasonably happy, in order that each may flourish individually to the overall benefit of the championship. "It is a concern," he admits, "that they can become too influential within a

'We need a balance between GTs and prototypes, so GTE is not the only future – but it is very much part of the future'

GÉRARD NEVEU

BMW star Antonio Felix da Costa reckons the GTE cars drive like pure-bred racers – even in long test runs.

championship, but at the moment they are all very involved and very enthusiastic about what's happening. Some are looking to how they might compete in 2020, when we will change the WEC regulations, but for now we want to grow hand-in-hand with the manufacturers. They are bringing great cars to the championship, with very good driver line-ups and the racing is spectacular. If the product is good and the racing is good, it helps very much to keep everybody happy."

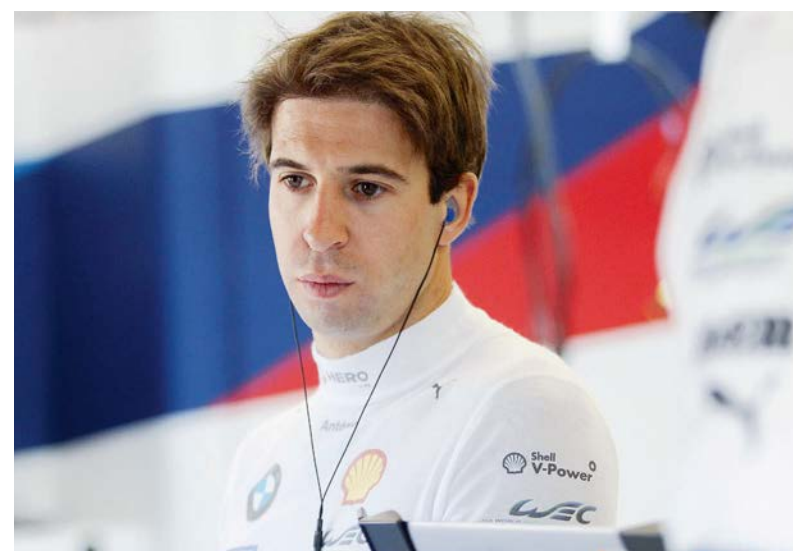
"We all need a slice of the cake," adds Aston's Paul Howarth. "If everyone is winning one or two races, then that's OK."

If WEC GTE sounds like a racing nirvana, where a strong field of competitive teams and drivers can co-exist in some kind of harmony, each

winning enough while delivering for their respective main board paymasters, then could it even become what the World Endurance Championship *is*? No more prototypes, just the very finest road-turned-race cars on offer, driven by some of the world's best drivers on glorious tracks such as Spa-Francorchamps, Le Mans, Sebring and Fuji?

For now, at least, Neveu says that's not the plan: "We need a balance," he says, "between GTs and prototypes, so GTE is not the only future – but it is very much part of the future."

As well as the not-to-be-missed here and now. ◀



TEXT

/
JUSTIN HYNES

'They will be nearer to hypercars. I'd call them concept race cars'

05



As the WEC balances privateers battling a sole manufacturer in its top LMP1 class, plans are already underway to transform the category into something FIA Technical Director *Gilles Simon* believes will “truly engage fans”



FIA Technical Director Gilles Simon has had a balancing act to perform with this year's LMP1 cars.

This year's LMP1 Championship features just one manufacturer hybrid-powered car in the shape of the Toyota TS050, so in order to encourage privateers and promote competition for non-hybrids the FIA has introduced an Equivalence of Technology regulation. How does it work?

From the beginning of October last year, we modelled different cars and conditions on a variety of tracks to try to understand what would be the serious potential performance for each car, comparing previous data we had on hybrid cars with data on non-hybrid cars or LMP2 class cars to try to build a vision of how we could match the performance of both on the track. We still felt it was necessary to demonstrate the advantage of the hybrid car in terms of autonomy and that's why you will find the difference in refuelling distance, the number of laps between refuelling for the two categories, as the fuel consumption of the non-hybrid cars is obviously higher than the hybrids and this leads to a natural difference. Initially, we developed a very similar performance on the lap and in the distance or

the range of each car, but in fact we limited the range of the hybrid cars because the difference would have been too great. We tried to be fair to everybody. The target is to have a control of the performance of both cars so that they can compete together with different technologies and, of course, they have very different technologies. The hybrid cars are very limited in terms of aerodynamic development, there is much more scope for the non-hybrid. They have much higher fuel flow, which is good for the performance but a little restrictive in terms of refuelling and length of stint. But again, they should be quite close.

Were you happy with the time differences between the Toyotas and the privateer cars in the season-opening race at Spa?

I would say in general happy, because if you understand the level of experience of the teams, it's quite different. We believe that the non-hybrid cars have quite a lot of potential as the number of kilometres they have done until now is limited. They have yet

to fully understand the set-up of their car, the direction they want to go in. There are some less experienced teams there. So, what we can analyse from the data is consistent in terms of what are the effects of the power, what are the effects of engine and so on. But we feel that globally, in terms of lap times, they may need to have more running to fully look at the potential of the car. They are not yet at their full potential and I believe they recognise that.

Do you feel there's scope for the non-hybrid teams to close the gap over the next six months?

I believe that at Le Mans we will see that because they are not so far away. Again, when we made the simulations last October we had no information on the real cars we would see, so we had to build our understanding and knowledge. I believe what we have seen in Spa was more or less in line with our computations and therefore I expect that the true potential of the cars will be seen once some issues have been fixed. It should be a better, closer fight quite soon.

Looking ahead to 2020, in broad terms what's the goal for the FIA and the ACO in defining the future of LMP1?

The first goal is to have one set of regulations that is not going into extreme technological development, so that we can set a regulation that all the competitors can have access to, but which will be compulsory for everybody. It is a little early as we still need the Endurance Commission and the World Motor Sport Council to adopt it, but our proposal is based on the definition of some limiting parameters. Very roughly, it's where we control the engine performance, the hybrid system performance and the aero performance, and you define the car with which you want to compete but

Even though Toyota won the opening WEC round, Simon was happy with the balance of performance between the TS050 and its privateer rivals.

it cannot be more than this horsepower, more than this kilowatts from the electric [motor], more than these aero figures. We want to set up some physical boundaries and put the numbers in the right place so that competitors can reach them but also have to reach them to be competitive. This means that we will not have any Equivalence of Technology – this is, you can make this horsepower with that fuel flow, and the number of cylinders is your choice, the architecture of the engine is your choice etc. Maybe it's because you have some brand identification, you want a four-cylinder, 12 cylinder, whatever you want but you have to go to these figures. Aero-wise it will be the same, this is the maximum downforce you can reach and that we measure, and this is the limiting factor, then you are free on the design of the car to reach those numbers.

Is there a target cost in mind in developing these regulations?

Yes, of course. We want it so that the development costs are under control ▶

'What we saw in Spa was more or less in line with our computations, so it should be a better, closer fight soon'

or at least that whatever you will spend will not give you a definitive advantage, because if I fit maximum aero efficiency in a reasonable way, then working on aero for hours will not give you a lot of advantage. Maybe you will have a slightly more stable car in certain conditions but basically the maximum downforce is set, the minimum drag is set and it's up to you.

A number of manufacturers have been involved in discussions around the next set of LMP1 regulations, some of whom are currently involved in the GTE Pro category. How much of a balancing act is it to pitch the LMP1 rules at a level that won't entice manufacturers away from GTE Pro, which is very healthy at the moment?

I think we are not speaking about the same cars - these are prototypes for LMP1 category, it is not based on specific cars. I believe it is quite a different programme for manufacturers and possibly with different targets in terms of brand. We believe that as it is the GTE category is quite successful and we do not see it reducing. In fact, we even have some potential new entrants that are developing cars for 2020. So, we are quite confident the success of GTE will be quite stable.

A similar question about LMP2. If you have an LMP1 category that's successful at a reduced

cost, is there a risk of the top category being too attractive to current LMP2 outfits, resulting in that category being thinned?

I think LMP2 is a quite successful category in its own right. It is well targeted, and the costs are quite reduced. It's much less expensive to race in LMP2 than in the GTE, for instance. With the new LMP1 category, our target is to have it in the same range of costs for privateers at the current non-hybrid LMP1 level, while we include also hybrid technology into it. Not as sophisticated or complex as we have seen in recent years, but quite interesting to have the technology too. So, we believe there will be an interest for privateers to run in the LMP1 category.

We have spoken about manufacturers being interested in the new LMP1 category. What about suppliers as well, just in terms of for those privateers, if there are simpler hybrid systems being thought of for 2020, have suppliers to teams been encouraged by the discussions?

Yeah, the hybrid system will be available at quite a reasonable price. It will not be a standard one, probably, but it will be available at a reasonable price.

So, what's the next step for these discussions?

The objective is to go through a process in the

Simon believes that privateer LMP1 teams such as BR Engineering still have plenty of performance to unlock in their cars this year.

'Our target with LMP1 is to have it in the same range of costs for privateers at the current non-hybrid level'

FIA, which is the Endurance Commission and the World Council, before an announcement, which might come at Le Mans. It will be a base concept of regulation, not the fully written regulations. We will finalise the details in the following months.

What's your hope for the outcome of the next set of regulations? What do you hope to see in 2020 across the World Endurance Championship?

I think that the P1 category has the potential to be very attractive because the regulations we set will really be nearer to hypercars than to the current Pts. By that I mean they will be extreme road cars. I would call them concept race cars. That is, they are concept cars for racing - for big brands and big names if they are not big companies. And I think this will truly engage fans. ◀



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05

Just as in motor sport's golden age, elite racing drivers are once again bringing star quality to a variety of disciplines. But while the goal of glory on multiple stages is tempting, the reality of competing in an increasingly globalised racing landscape is anything but straightforward...

BREAKING THE MOULD

TEXT
/
LUKE SMITH

His trials in F1 with McLaren prompted Fernando Alonso to branch out into sportscars and the WEC, where he made a winning debut with Toyota at Spa in May.



When Nico Hülkenberg claimed victory on his debut at the Le Mans 24 Hours with Porsche in 2015, becoming the first active Formula 1 driver since 1991 to win the race, it sparked a renewed interest in events outside traditional grand prix racing.

Far from the days when Mario Andretti would compete on either side of the Atlantic in both F1 and dirt-track racing over the same weekend, few drivers in recent times have taken on additional duties for fear of losing focus or burning out.

But while Hülkenberg's Le Mans appearance proved to be a one-off, F1 colleague Fernando Alonso has since stepped up to become the series' chief multi-disciplinarian, driven by a hunger to establish himself as one of motor sport's all-time greats.

At 36 and with only two F1 world titles to his name, Michael Schumacher's record of seven championships looks to be out of reach for Alonso. So he turned his attention to a different accolade: the 'triple crown of motor sport'.

Made up of the Monaco Grand Prix, the Indianapolis 500 and Le Mans, the triple crown is one of the rarest titles in motor racing, achieved just once by Graham Hill. Frustrated by McLaren's struggles in F1 last year, Alonso took the opportunity to make his Indy 500 debut in the US, qualifying fifth and leading 27 laps before retiring late on. ▶



Andre Lotterer splits his time between Formula E (below) and competing in the WEC, but says he has become used to adapting to different cars throughout a varied career.



Unable to skip Monaco this year to feature at Indianapolis again, Alonso opted to pursue a debut at Le Mans. He could have simply added the 24-hour race onto his schedule, but chose to sign a full-season deal with Toyota, committing to the full FIA World Endurance Championship 'super season', which stretches over 14 months and includes two Le Mans appearances. It all adds up to a busy year of racing with at least 30 weekends at a race track. The Spaniard may relish the challenge, but he is having to adapt his approach as a result.

"I'm in energy-saving mode every day because I know it counts," he says. "You try to think two weeks ahead, the energy you will need in two weeks' time. It's not a short-term preparation, it's a long-term preparation. I want to be 100 per cent every Sunday and for Le Mans. It's definitely a very tight calculation of the training programme and how you fly, how you rest, which planes you take, what food you eat. You try to always be on the average level of 99 per cent."

BALANCING ACT

Balancing WEC with F1 is something Toro Rosso driver Brendon Hartley managed towards the end of last year following his call-up to the team while he was still part of Porsche's LMP1 programme. The New Zealander spent the end of last season criss-crossing the globe, switching from sportscars to single-seaters, all while trying to secure a race deal for 2018.

"I was treading water in a way and taking one race at a time, because I had a lot on my plate and a lot to learn," Hartley admits. "A lot of things were going on behind the scenes to secure the drive for this year. But I embraced it and enjoyed it. Eight weeks on the trot in different corners of the globe was tough, but I wouldn't change anything."

Mike Conway has embraced the challenge of competing in different series and is currently mixing WEC duties (below) with racing in the US IMSA series (right).



"Doing Le Mans alongside F1 is really cool. There were not so many races in the world where I had that feeling in terms of history, atmosphere and team spirit. I think Fernando will soak it all up and enjoy it."

Alonso enjoyed a warm welcome from the FIA WEC paddock on his debut in May as he made a winning start to life in the championship. While he arrived in Belgium straight from the F1 Azerbaijan Grand Prix, Andre Lotterer and Antonio Felix da Costa also had just a matter of days to get into a different operating mode, going from racing Formula E cars around a tight street circuit in the centre of Paris to tackling the fearsome Circuit de Spa-Francorchamps in far more powerful LMP1 and GTE sportscars; a chalk and cheese shift.

"Formula E is quite a different world," explains Lotterer. "I try with the schedule as best as I can so that before I go back into the Formula E car I jump into the simulator again, to get back some of those habits."

"I've been used to it throughout my career, since I went to Japan, to jumping from Super Formula to Super GT. We get used to adapting quickly."

The shift in driving style may be a challenge for Lotterer, but da Costa says that he finds it easier to change his mindset as a result.

"They're so different that in the end it's not even a transition," he says. "You switch off one mindset and turn on the other one. The cars are very different and being on a city track, every time it requires a different kind of attention. In WEC it's more the traffic that gets me."

Toyota LMP1 driver Mike Conway feels that becoming a multi-disciplinarian has helped him to add new elements to his skill set having raced in WEC, IMSA, IndyCar and Formula E over the past five years. ▶



'When I was younger, I thought I'd focus on one programme. But driving other cars opens you up to things you can adapt to'

MIKE CONWAY



"When I was younger, I thought I would just stick and focus on one programme," says Conway. "But as soon as I started driving other cars like different types of sportscars and in and out of Indycars, I just felt like it opened up your whole library as a driver of things you can adapt to."

"Especially with sports car racing, you're in the car for such a long time that you've really got to drive around a lot of things and mentally focus for a long time. It was a real benefit for me to jump in and out of and drive different things, in different championships. It keeps you sharp."

For Conway, juggling so many different series also helped him feel more connected to a bygone era of motor sport, when drivers rarely stuck to a single formula or discipline.

"You love and want to do more, like they used to back in the day," he says. "Some of the Americans like AJ Foyt and Mario Andretti, they did dirt racing, F1, Le Mans, IndyCar, loads of different things. It's pretty cool really."

But Alonso sees his multi-series schedule differently. Instead of feeling more connected to the racers of old, he believes he has grown closer to motor sport as a whole by broadening his horizons.

"I'm more connected to the sport and to being a better driver," he explains. "I think sometimes in F1 you live in a very small world. You think that winning or taking pole positions will put you on a better level, or you are better than other drivers."

"But motor sport in general is a very big world. There are



Brendon Hartley's busy end to 2017 saw him competing in the WEC while also trying to land an F1 race seat for this season with Toro Rosso.

very talented drivers in go-karts, F3, WEC and IndyCar. It's very challenging if you want to beat all of them.

"If you want to beat everyone in F1, it's a very small group. Normally your car can help you to beat the slower cars, but it can also not allow you to beat the quickest cars. So it's not a fair comparison."

"I think by doing IndyCar or WEC or other races, I challenge myself much more. You become a better driver."

FIA President Jean Todt shares a similar view to Alonso, believing that drivers dipping their toe in the water of other series can only be a good thing for motor sport.

"Jim Clark was one of my heroes. He was the best F1 driver, but he died in Formula 2," he says. "All the drivers who are competing, they're all passionate. I think it's great. For example, I think it was very brave of Kimi Räikkönen when he went into rallying some years ago. It's very good to have that."

"I think it will come back. It's very healthy to have those opportunities for drivers."

As he bids to cement his status as one of motor sport's all-time greats, Alonso is spearheading the renaissance of multi-discipline drivers and breaking the mould of the modern-day racer.

And while there may be challenges that come along with it, the rewards on offer and – more significantly – their passion for racing make it worth the late nights and the trying travel schedules for the busiest drivers in motor sport. ◀



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Anand Mahindra, president of the eponymous Indian industrial giant, has always had one eye on the future, which includes a new partnership with an Italian luxury car designer as well as a challenge to Facebook

06

Finger on the pulse

TEXT

EDOARDO NASTRI

Ploughing a furrow towards a sustainable future by investing heavily in technology and state-of-the-art products would seem to be the aim of the Mahindra Group, the Indian industrial colossus, with a 2017 gross worth of 19 billion US dollars. Set up in Mumbai in 1945, the group operates in several sectors from aerospace to automobiles, defence to finance and from property to IT.

Anand Mahindra is the third generation of the family to be involved in the company and is currently president of the Mahindra Group. Born in 1955 in Mumbai, he graduated from Harvard, Massachusetts before receiving an MBA from Boston's Harvard Business School and starting his career in the Mahindra Ugin Steel Company Ltd, working as an executive assistant to the finance director. In 1989, he became president and deputy director of that company. It was during this period that he began the process of diversification of the Mahindra Group, with the intention of expanding and establishing it in real estate and tourism. In August 2012, he became president and managing director of the Mahindra Group, taking over from his uncle Keshub Mahindra, and in 2013 Forbes India named him businessman of the year.

During its 73 years, the company has produced agricultural machinery including tractors, commercial vehicles, a variety of cars and motorcycles, and many others types of vehicle. Anand Mahindra is not just concerned with mass production, however, and for a while now he has

extended his horizons to take in the world of luxury goods, design and style.

In 2015, he invested 150 million Euros in acquiring a 76.6 per cent stake in the Pininfarina bodywork design studio through Tech Mahindra. The plan is to expand the Pininfarina business thanks to the solid finances of the Indian group, without ignoring its strong Italian roots. "Pininfarina must remain an independent icon and in no way do we want it to become a branch of our company," explains Mahindra. "Today, it is very difficult to establish oneself as a luxury

Mahindra will use technological know-how gained in Formula E to benefit its Automobili Pininfarina brand.



brand, because as in all commercial avenues there are stand-out names. Pininfarina has always represented luxury, style and design. For me, a luxury product contains the right mix of history and craftsmanship, and the Italian design house is typical of this concept. The products it will make will definitely not be branded as Mahindra, there'd be no sense in that. I don't think this is an impossible task, but it's clear that if our new luxury brand was called Ma-ha-raj-a, probably no one would buy our cars, but with a name like Pininfarina, things change drastically."

BRAINS BEHIND THE BRAND

A few weeks ago, when the Mahindra team was taking part in the Rome Formula E Prix, Pininfarina SpA and the Indian group announced the birth of the new brand, Automobili Pininfarina. The brand, entirely owned by Mahindra, aims to build and sell luxury electric hypercars in all major markets from 2020. Automobili Pininfarina will develop all its cars in close and continuous collaboration with Pininfarina SpA and has already announced its first model, codenamed the PFO. The performance figures are impressive: 0-100km/h in under two seconds, a top speed of 400km/h and a price tag around the two million Euro mark.

It's not easy creating a brand from scratch that is capable of selling this type of car with this level of performance, but Mahindra believes the name and technological package can convince potential customers. "Is it ambitious? Definitely, but ambition is part of our DNA," he says with a smile. The technology that will propel this zero-emissions super sports car to the stated levels of performance comes directly from the Indian company's experience in Formula E. The PFO will be produced in limited numbers, probably fewer than 90, and will launch the brand on the market. Following on from that over the next few years will be a top-of-the-range electric SUV. The aim is to compete with brands such as Bentley, Ferrari and Lamborghini rather than BMW or Mercedes.

"It's not difficult to transfer the know-how from our years of research in Formula E to a road car such as the PFO. When we talk of avant-garde technology, you have to bear in mind that Mahindra doesn't just supply the financing. Our group is one of the pioneers of Formula E and, thanks to the experience we have gained there, we have acquired a true understanding of the potential of electric vehicles and we are capable of transferring that technology to road cars. ▶





It's clear to see that this technology transfer is not at all feasible from Formula 1. Formula E, however, is delivering race-to-road know-how and that is Mahindra's strength.

"We will work with partners who are major suppliers of technological equipment and that means we will be able to work to the highest level," adds Mahindra. "Our first car, codenamed PFO, will define our company, based on the perspective, performance and respectful integration of Pininfarina's legacy. With this in mind, in the coming months we plan to meet as many owners as possible of cars from the Turin design house, in private and also at some of the most important car events in the world, starting with Pebble Beach. The abilities of our prestigious partners and our experience in the areas of electric vehicles, design, mobility and the sale of luxury cars will be an excellent starting point. But the key factor will be our ability to offer cars that are faithful to the Pininfarina tradition, while being built for 2020 and beyond."

To understand what has driven the Indian colossus to set up this new car marque, one has to understand its president's view of mobility of the future. "My vision is that the car industry should be divided into three reasons for buying. The first includes cars sold for daily use where the brand name is of marginal importance.

The Automobili Pininfarina brand was launched by the two groups in Rome earlier this year, spearheaded by a new electric hypercar model codenamed the PFO.

In this sector, car sharing will play a strong role in the future. Fleets for car sharing are expanding rapidly, even in India, and we have already supplied the Indian government with around 5000 electric vehicles. Here there will be increased demand for electric vehicles and I believe that car sharing companies will switch to EV as soon as possible.

"The second sector includes those who buy a car for recreational purposes, to drive at the weekend. Here we are active with the Mahindra brand or possibly with Roxor, our new off-road brand which we have just launched in America. The third sector is for enthusiasts of all types who buy cars because they are objects of desire, where the key words are performance and

beauty. In this area, Mahindra doesn't have the appeal, but Automobili Pininfarina will allow us to participate in this sector at the right time. That's our strategy and the reason why we have created this new brand."

It's not just cars with Anand Mahindra, a man who keeps up with the times and personally looks after his social media accounts. He tweets regularly, reading and replying to comments from his 16 million followers. And he has embarked on transferring these excellent social networking skills to business, funding an Indian start-up in this sector to compete with Facebook. After the Cambridge Analytica scandal affected Mark Zuckerberg's giant, Mahindra tweeted that the time was right to build an alternative social media platform, based in India, promising to finance new companies capable of producing an Indian version. "I'm starting to ask myself if the time is right to set up our own social networking company, managed and voluntarily regulated in a broad scope. Are there any Indian start-ups that could do it? If any groups of youngsters think they can, I would like to help them with some capital."

Anand Mahindra is a man who looks to the future and does not seem scared to face up to the realities of the market place, be it for cars or social networks. ⬆

'Fleets for car sharing are expanding rapidly, even in India, and we have already supplied the Indian government with around 5000 electric vehicles'

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06

ROME'S MARCH TOWARD FUTURE MOBILITY

Launched in 2017, the FIA's Smart Cities initiative has brought together experts from across the world to discuss future urban mobility. At its latest stop, in Rome, the talk turned to making sure the Eternal City lives up to its name

TEXT

/

DANIEL ORTELLI

Following three years of success for Formula E races in the heart of major cities, in the spring of 2017 the FIA launched the Smart Cities initiative to gather together global experts from the worlds of technology, transport, engineering, policy and politics to discuss the future of sustainable mobility. In April, the forum stopped in Rome where – following events in Mexico, Paris, Berlin, Montréal and Santiago – attention turned to mobility in historic urban centres, cities undergoing transformation on many levels.

Rome's layout – layered upon two millennia of historic streets – and dense infrastructure create difficult traffic conditions, and with 840 registered vehicles for every 1,000 inhabitants, of which 640 are cars, the problems are manifold. Accommodating the needs of drivers, public transport users, cyclists and pedestrians while preserving the unique urban infrastructure in a historical city is a major challenge. But it's a challenge the Eternal City is rising to through the implementation of its Sustainable Mobility Plan, an elaborate strategy aimed at wholesale reform of its mobility system over the next 10 years.

The city's mayor, Virginia Raggi, is at the forefront of the fight for better mobility. "We are designing the city of the future, favouring interconnected mobility with a reduced impact on the environment. Rome must be competitive and is ready to take up the challenge. Our policies should be designed to serve the people and be sustainable," she explained at the Smart Cities forum panel on which she was joined by FIA President Jean Todt and Prince

Albert II of Monaco, whose Foundation is heavily involved in initiatives to fight air pollution and traffic congestion.

"Rome is a very complex city with a low density of population because we are spread over a very large territory," she added. "We also have an incredible number of old buildings of great archaeological value that we need to

'We are designing the city of the future. Rome must be competitive and take up the challenge'

protect. At the same time, we need to think of new infrastructures, especially to allow better transportation across Rome. We need to organise a completely new system of life based on sustainability. The community has a responsibility and electric mobility is one of the keys to a more sustainable future."

While dealing with the management of infrastructure handed down across the centuries, Rome, like every other urban centre, is also a growing city – a process that creates its own issues, which at the simplest level come down to creating functioning, 'liveable' environments for citizens.

Addressing the need for urban planning bodies to consider the well-being of the populations in a keynote presentation, Carlo Ratti, director of the Senseable City Lab at the Massachusetts Institute of Technology (MIT), said: "The four numbers that define our cities are two, 50, 75 and 80. Cities take up two per cent of the world's surface; they have 50 per cent of the world population; they are responsible for 75 per cent of the world energy consumption and 80 per cent of CO2 emissions. The cities of the future should be better and more efficiently designed with the help of technology, but they should be people-friendly and fairer to all as well."

The MIT Senseable City Lab is well-known for the quality of its research on advancing social innovation through design and sciences. Ratti believes cities should become 'senseable', both smart and pleasant to inhabit, with an emphasis placed on the human rather than the technological side of city dwelling.

"I prefer the word 'senseable,' Ratti says, "but behind it is the same thing: the convergence of digital and physical, to use better the space in which we inhabit. A senseable city is focusing more on the citizens and creates a better quality of life for them.

"Today is a very interesting time in cities, because the internet is entering the physical space," he adds. "This is changing many dimensions in our lives. One key dimension is mobility, because having a lot of data in real time, from the city, allows us to have systems such as Uber and others, which have a big impact." ▶

The historic city of Rome is aiming to reform its mobility system over the next decade.





Rome was at the forefront of public mobility's embrace of big data, with the help of Ratti and the MIT, when its 'Real Time Rome' project was presented in 2006 at the Biennale di Venezia. The idea was to use data from mobile phones to collect and analyse the varied ways in which Rome's citizens were moving about their city using different systems of transportation, private or public. Twelve years later, the amount of data collected, in real time, is considered a crucial asset for all policy makers around the world, even if some limitations remain because of the need to respect privacy.

Ratti warns, however, that technology is fluid and that future innovations may render current data sets irrelevant when considering long-term planning. "We can create new mobility systems, but we need to be aware that technology is neutral, so it can lead us to totally different cities in the future: one with fewer cars [because they are shared by citizens], or another with more cars, if people stop using public transportation," he says.

"A huge parking lot is currently being built in Singapore, in the central business district, but it will be useless in 10 or 15 years because of the development of autonomous transportation. So it is really important that the public sector, the governments and the politicians engage with all of this in order to decide what type of city we want tomorrow. We also need to know how many users are ready to embrace new technologies. So we

Italian Formula E driver Luca Filippi believes Rome has the right mentality to embrace the mobility revolution.



Rome's mayor Virginia Raggi is leading the drive for better mobility in the city.



Senseable City Lab director Carlo Ratti says cities of the future must be better designed but also people-friendly.

try out new things and we learn from this. People can respond, they get excited, familiar, then we need to evaluate the possible consequences".

CITIES AND START-UPS

Last but not least, the role of start-ups was at the core of the Rome Smart Cities Forum, because their ideas and solutions are crucial to the future of urban mobility. According to Ross Douglas, founder and CEO of Autonomy, an independent French company focused on changing the way people move in cities: "Start-ups have been very active in changing mobility. There has been a lot of investment over the past 10 years, mainly coming out of America and China. Now a new generation of start-ups are surviving because they are able to change scale rapidly, by raising a lot of capital to enter other markets. They have to work with cities, because cities own the access to the roads and parking infrastructures.

"All the start-ups with mobility solutions are now trying to build relations with cities, encouraging them to allow their technology in," he adds. "And cities are looking for new mobility solutions from start-ups because they cannot afford the old public transport solutions any more. They also understand that smart mobility can give their citizens very good mobility for a fraction of the price. So the big trend now is this collaboration between cities and start-ups, to improve mobility at no cost to the cities, allowing access to their infrastructures. Some cities are moving slowly, others quickly. In Paris, over the past four or five years, four electric scooter companies were created, there is now bike and car-sharing. A big change is coming and start-ups are positioning for the next five or six years."

The final word on the Rome Smart Cities Forum came from Formula E driver Luca Filippi, now a strong advocate of change: "Rome, since the Roman Empire, has always been about innovation. They created a new world. The mentality here is open to this new mobility revolution, even if it is one of the world's most ancient cities. We have to be prepared and the technology has to keep going. Because competition between different technologies is what makes everything better, every day. The goal is the same, to create less pollution, so the result is the best for everyone".



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06

Hitting the political road block

TEXT
/
KATE TURNER

All too often positive road safety action is stalled by a lack of political interest. But as three major world cities have proved, where there's an integrated will there's a way...

Road safety around the world sits as a low priority for politicians – and the people who elect them – despite the growing number of people killed in traffic collisions. An estimated 1.25 million people die in traffic collisions each year, yet the political impetus to invest in real change remains limited in many of the most dangerous cities in the world.

However, according to a new report on the political economy of road safety, 'Securing safe roads: the politics of change', an integrated approach and consistent investment can save significant numbers of lives in cities over a relatively short period of time. Funded by the FIA Foundation and produced by the Overseas Development Institute (ODI) and World Resources Institute (WRI), the report examines how road safety has been prioritised in three cities – Bogotá, Nairobi and Mumbai – and their relative successes.

Lower-income cities account for the majority of road deaths, and within each it is the poorest sections of society who bear the brunt of traffic-related injuries and deaths. Low- and middle-income countries, the places where urbanisation is progressing fastest and cities are least equipped to deal with growth, are where 90 per cent of these fatalities occur. The rising number of people living in urban spaces places huge pressure on all elements of urban infrastructure – almost 70 per cent of the world's population will be in urban spaces by 2050 with close to 90 per cent of the increase concentrated in Asian and African cities. Mumbai, for example, has seen its population rise from around three million in the 1960s to more than 12 million today.

This road traffic crisis particularly affects poorer working-age men who tend to use vulnerable modes of transport such as walking, cycling and

motorcycling. In these three cities pedestrians made up 50 per cent or more of the fatalities in each case, while motorbikes were singled out as startlingly high-risk modes of transport in Mumbai and Bogotá. Despite making up just five per cent of road traffic in each city, they account for 34-35 per cent of all road deaths.

COUNTING THE COST

For families and communities, the social and financial impacts of road crashes are huge and long-lasting. The situation is worse for those who are already living in poverty. In these cities, and across the world, working-age men, often the key breadwinner, are disproportionately affected by road crashes, which hits those already in poverty the hardest. A serious road injury, one of an estimated 50 million each year, can mean months of lost work with many left unable to work at all. Some households will lose two income streams if a family member has to take full-time care of a victim. These are consequences that, inevitably, hit the poor disproportionately hard.

The financial strain placed on families is also reflected on their societies and the regional economy. The many deaths and injuries place a burden on already stretched healthcare systems,

'Politicians must provide safe mobility for the majority of people who walk, cycle and use public transport'

and societies must adapt to fewer members in the workforce. Road collisions cost three per cent of global Gross Domestic Product (GDP), according to the World Bank, but countries that do not invest in road safety could miss out on anywhere between seven and 22 per cent in potential per capita GDP growth over the next 24-year period. The cost benefits of investment in road safety are, simply, too significant to be ignored.

Transport is a major political issue in virtually every city, but in many cases, road safety is seen to be in direct conflict with other priorities such as reducing congestion and shorter journey times. Faster-flowing traffic is often the priority for citizens, therefore focusing policy makers' gaze on short-term solutions. Simple expansion of road networks appears to offer the easiest solution, but fails to accommodate the needs of the majority of road users – pedestrians, cyclists and motorbike riders – instead prioritising the car-driving minority.

In Mumbai, new infrastructure heavily focuses on routes for cars, despite the fact that just five per cent of daily trips are made by private cars compared to half of all daily journeys by foot. These newly-constructed roads are designed to ease congestion by speeding up the flow of traffic to 60km/h and higher, but in doing so have also become hotspots for road injuries and fatalities.

Failure to recognise and act on road deaths is exacerbated by a tendency for both politicians and the public to blame individual road users and crash victims for collisions, rather than policy-makers or planners. In Mumbai and Nairobi, efforts to improve road safety often face resistance because of concerns about increasing costs to the transport systems or risk of causing even more congestion. These competing concerns pose challenges, but it also creates opportunities; redesigning streets or public transport systems can tackle concerns about congestion while also making them safer for all road users.

Saul Billingsley, executive director of the FIA Foundation, says: "Road traffic deaths and injuries are not 'accidents'. They are the direct consequence of system failures and political choices. If we are to achieve the United Nations' Sustainable Development Goals target to halve road deaths – a commitment to which ▶

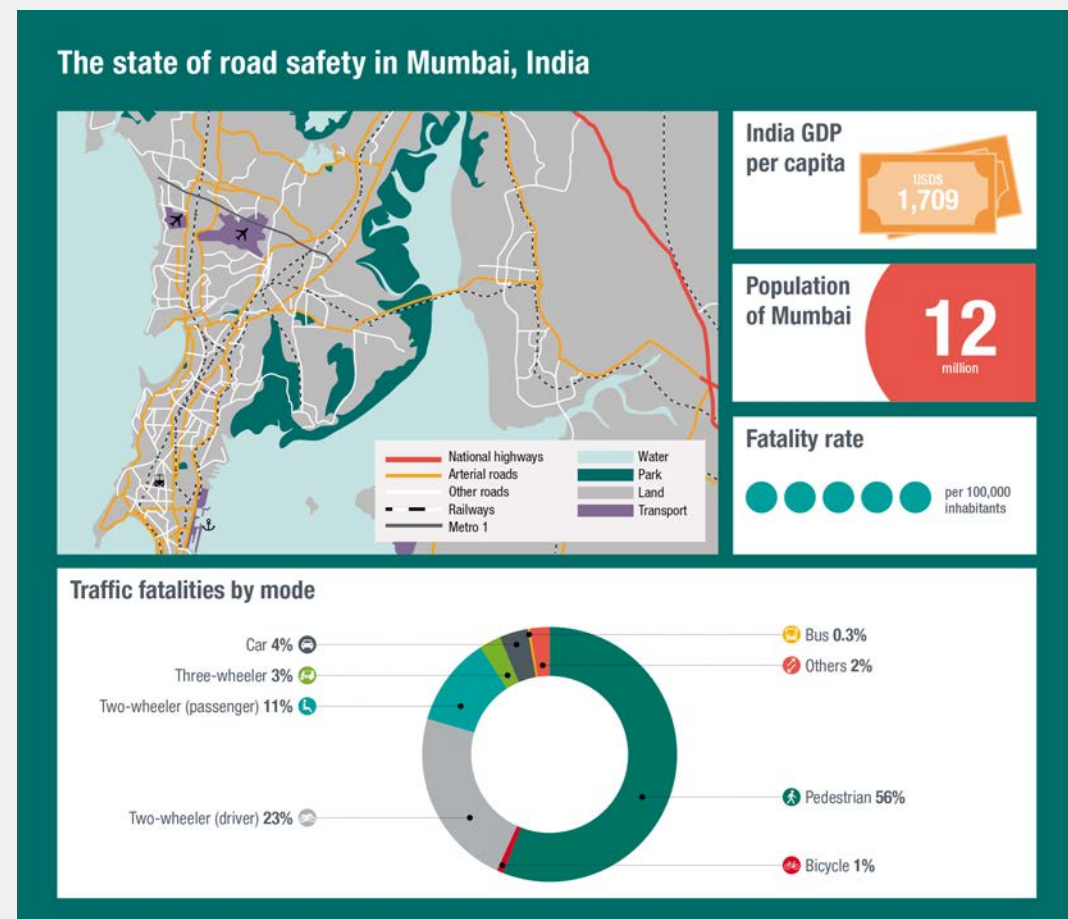
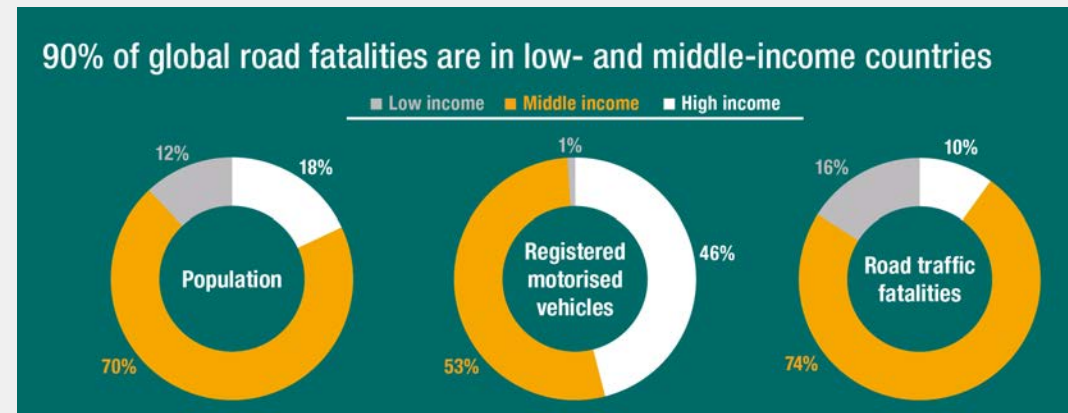
A mix of urban planning and transport reforms have helped Colombian capital Bogotá to halve its number of traffic fatalities in a decade.

Kenya, Colombia and India have all signed up – politicians must start listening and provide safe mobility for the majority of the people who walk, cycle and use public transport.'

Road safety is a public health issue, but it is also one that crosses economic, social and legal concerns as well. In Mumbai and Nairobi the disjoint between different bodies with partial and often conflicting priorities has resulted in slow developments. By contrast, Bogotá halved the number of traffic fatalities in just a decade due to a mixture of reforms including public transport, urban planning and transport, which all increased the city's ability to influence, control and monitor people's mobility and safety. It is clear that the

choices made by cities have dramatic effects on not just the their citizens' quality of life, but on the opportunity for lives free from the man-made epidemic of road deaths. There is a responsibility to address the need for fast, reliable transport, but this must be for all, not just the car-driving few at the expense of the rest of society. Taking an integrated approach to road safety by combining education, enforcement and infrastructure improvements results in safer and more reliable journeys. Sustained investment in and political support for infrastructure that promotes active and public transport over faster car journeys is not just possible, but essential to save millions from the pain and suffering of unnecessary deaths. ◀

Calculating the cost of traffic collisions



Winning the safety battle in Bogotá

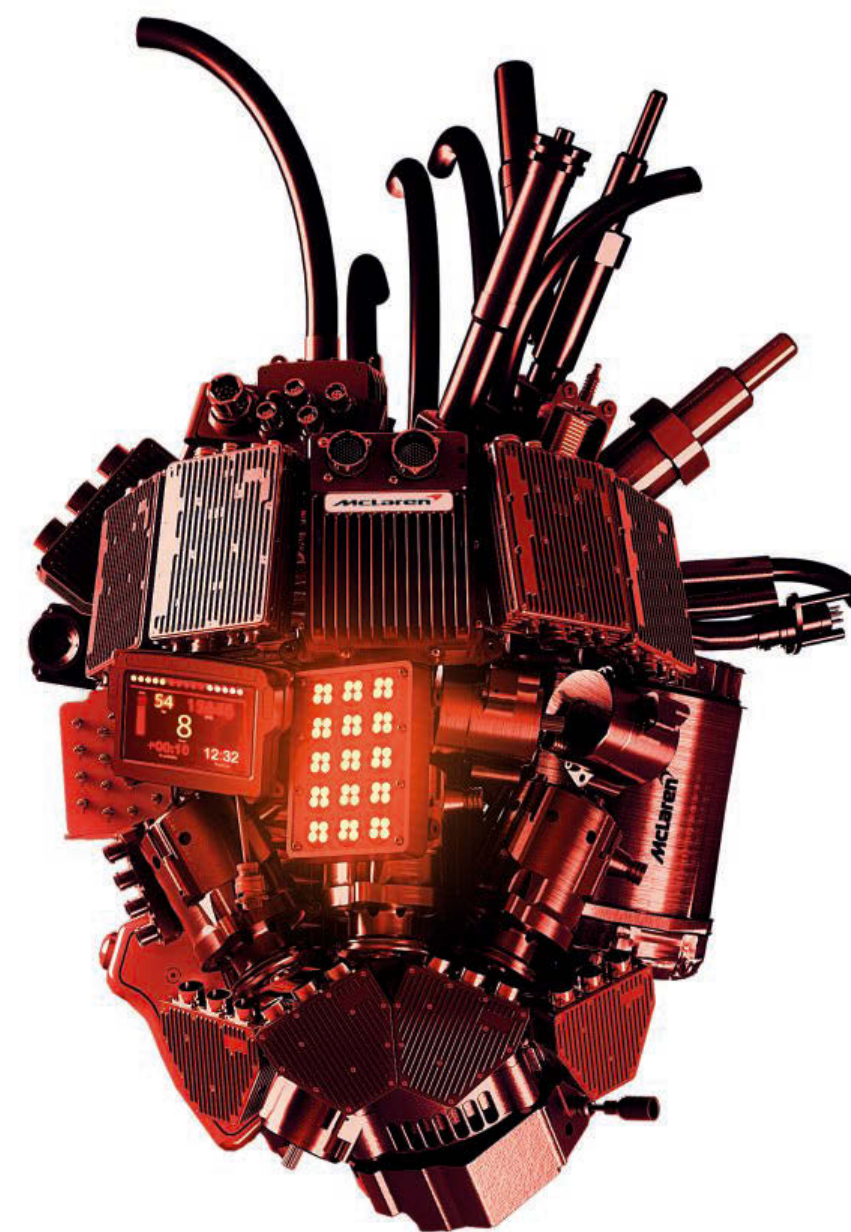
Between 1996 and 2006, the city of Bogotá reduced its traffic fatality rate by more than 60 per cent. The transformation, including improved road safety, has been closely linked to mayoral leadership, made possible by the decentralising of many policy responsibilities to local government. This provided the freedom to make changes in local government structure and policy, while focusing urban planning and design for sustainable mobility. Changes in the legal framework at both the city and national level laid the foundation for changes in other areas. Nationally, a road safety fund, council and regulations were established. These regulations were subsequently better enforced at the city level due to a reform of the traffic police. Enforcement of seat belt and other safety laws introduced in the 2000s made a significant improvement to the survival rates of motor vehicle occupants.

The implementation of a Bus Rapid Transport (BRT) system and the re-design of city streets has also been linked to overall improvements in city transport, while also promoting road safety. Previously, the bus service was poor, with a high number of crashes with other road users caused by aggressive driving, dangerous pedestrian crossing areas and congestion. The introduction of a BRT system with dedicated bus lanes was in response to public demand for better transport, and was followed by a second stage of re-development to improve walking and cycling areas as well. These reforms improved road safety and resulted in reduced car use, which in turn further increased safety for all road users.

Another significant element was the development of a civic culture that emphasised the value of human life. City-wide programmes encouraged citizens to regulate each other on the use of urban space, particularly roads. The programme fostered a collective sense of social control by promoting civic spirit and responsibility; people were encouraged and empowered to have higher expectations of one another. This created a shift from understanding traffic fatalities as the personal responsibility of the victims to a wider social and public health issue. The Colombian capital demonstrated to the world how road safety can be improved in a relatively brief timeframe with the right mix of political focus, investment, public campaigns and regulations.



Road safety improvements in Bogotá have helped its most at-risk users.



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Accelerating Asia

06

TEXT

DECLAN QUIGLEY

Pinnacle Motorsport has enjoyed success in Formula Masters, most recently winning the 2017 title with New Zealander Taylor Cockerton (below).



Economic growth, booming car sales and manufacturer involvement are powering a surge in motor sport interest across Asia – and the FIA is playing a key role in creating a culture of competition in the region with the launch of an all-new Asian F3 Championship as part of its global re-imagining of the category

These are exciting times for Formula 3 with a new two-tier system set to revolutionise the world's most important F1 feeder category. As the FIA consolidation of the leading single-seater feeder categories continues apace, the new regional F3 model set to slot in directly below the newly-revamped International F3 is gaining quick acceptance in Asia and the Americas.

The new one-chassis, one-engine per region concept pioneered in Formula 4 has already won approval in Asia, where the F3 Asia Championship is set to debut with a five event, 15-round championship beginning at Sepang, Malaysia in July.

For teams such as Philippines-registered, Malaysia-based Pinnacle Motorsport, the F3 initiative offers a new market for operations, while for Asian drivers the regional F3 series provides a chance to pitch for a professional career without having to tread the well-worn path to Europe.

"It's the first FIA-sanctioned F3 series in Asia," says Pinnacle Motorsport boss John O'Hara, whose squad has won three of the last Formula Masters championships, the category that the new F3 Asia Championship replaces. "It's part of the Superlicence points system. It's the first such series here that has a real link with the FIA and its new ladder, and the championship has been

Pinnacle boss John O'Hara says the new FIA-backed F3 Asia series will provide a bigger stage for his team as it moves away from the old Masters format.

structured so that costs are controlled."

As a driver O'Hara finished second in the old independently organised Asian Formula 3 series in 2004 and, having hung up his helmet to run race teams in the region for the past decade and more, the Irishman is well placed to assess the potential of the new series.

"Single-seater racing in Asia is becoming an area where drivers can make a career," he says. "One of our previous champions from Formula Masters, Martin Rumpf, is now an Audi-funded driver. The Formula 1 dream is difficult, but drivers are now going to GTs earlier because that's where the manufacturers are, and the manufacturers are looking at single-seater racing for drivers and they're doing that on a more global basis."

Pan-Asian promoter Top Speed will run the new series using chassis supplied by Tatuus and 1.7-litre turbocharged 270bhp four cylinder engines from another Italian concern, Autotecnica.

While O'Hara is coy about budgets for the series, the F3 Asia Championship is understood to be more affordable than equivalent series elsewhere in the world, particularly in Europe, making it attractive for drivers travelling to Asia as well as local stars.

BRIDGING THE GAP

In 2019, a new FIA Formula 3 series featuring a brand-new car will replace the current GP3 Championship on the support bill at Formula 1 grands prix. With F3 and the regional F3 series springing up, the final rungs are being inserted in the FIA's ladder to the top of single-seater racing.

Formula 4 and F2 are already well established as the first and penultimate steps of the pyramid leading up to the F1 World Championship, and of late the FIA has focused its attention on redefining F3 for this new era.

F4 has been an unqualified success, with 15 different race series around the world providing a first step on a clearly defined pathway for aspiring racers, and the same broad concept has been adopted for F3 in keeping the rungs of the ladder evenly spaced in terms of cost and opportunity.

FIA Secretary General for Sport Peter Bayer is charged with developing the governing body's approach to the new categories. In doing so, he and his team realised that the development of the International F3 series presented an opportunity to create more regional F3 championships.

"What happened in defining International Formula 3 is that we saw that between F3 and F4 there is a bit of a gap in terms of performance but also in terms of available seats," says Bayer.

"So, in F4 we have 15 championships with a significant number of young drivers. Currently, there will be probably 30, 40 people trying to get one of the seats in International F3 next year.

"There will be a maximum of 26 seats available [in International F3], so there is room for something in between – not only because there are lots of drivers to whom we want to give a home, but also because we want to develop the single-seater pyramid in a consistent way. ▶



Because, in terms of performance, there is quite a gap between International F3 and F4."

The FIA will target a similar level of performance across the various regional F3 championships, which will be achieved through the framework created for both the chassis and the engine.

With 270bhp on tap driving through a six-speed sequential gearbox and sporting considerably beefed-up tyres compared to the old Formula Masters cars, the new F3 Asia machines are expected to lap at a similar level to the current FIA F3 car it replaces.

Formula 3 has been a staple in the evolution of professional racing drivers since it first came under the aegis of the FIA in 1950. Stirling Moss was the first big name to graduate from the 500cc motorcycle engine spaceframe machines that had mushroomed in popularity from the nascent British motor sport scene in Bristol just after the Second World War.

Bar a brief period in the 1960s, when the slot two below F1 was occupied by Formula Junior, F3 has been the cornerstone of the single-seater pyramid for aspiring world champions.

Remarkably, the current 2-litre engine regulations in place at European championship level are substantially the same as those introduced to replace the 1600cc formula in 1974.

Then, there was a bewildering array of manufacturers trying their luck at producing winning machinery, with several engine builders doing battle in the same races.

In latter years, Formula 3 has crystallised into a European FIA series supplied by one chassis manufacturer, Dallara. The single chassis model continues to be the staple of the FIA single-seater pyramid, and by sourcing individual suppliers for chassis and engine in each region, the FIA hopes to do for F3 what F4 did for entry-level nationally-based single-seater racing.

The Asian series' F3 car will comply with the latest FIA specifications and feature a number of enhanced safety features including the new Halo device, improved side-impact protection and wheel tethers.

Now, with the two-tier F3 initiative, squads such as Pinnacle Motorsport are set to blossom in Asia, one of the key growth markets in world motor sport. For O'Hara, there really isn't anywhere better to be right now.

"Obviously a lot is to do with economic reasons," he explains. "China is booming at the moment and is on course to become the biggest car market in the world, and they're ready to spend money on racing.

"All the major GT brands are already there including Mercedes, BMW, Audi, Ferrari and Porsche. They're all spending money on racing and this has been a big help to young drivers in Asia - career-minded drivers.

"That's just one aspect, but the whole thing is moving in a positive direction," he concludes. "It's not just based on hopes and dreams that things might come together like when I first came here. It is realistic now and it's 100 per cent the place to be." 4



The FIA is redefining F3 as it works to consolidate its single-seater racing ladder, with a new car and series set to replace the GP3 Championship on the F1 support bill in 2019.



'Single-seater racing in Asia is becoming an area where drivers can make a career'

JOHN O'HARA, PINNACLE MOTORSPORT



'We saw that between Formula 3 and F4 there is a gap in performance, but also in terms of available seats'

PETER BAYER, FIA SECRETARY GENERAL FOR SPORT

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06

Electric dreams

The FIA and French energy giant EDF have extended their technical collaboration for another four years. AUTO looks at the pioneering mobility research already conducted and the future innovations to come

TEXT

/ DANIEL ORTELLI

A renewal of the partnership between the Fédération Internationale de l'Automobile (FIA) and French energy company EDF, as an Official Technical Supplier, demonstrates that the collaboration begun in 2014 is gaining momentum at a critical time for electric mobility.

The new agreement extends to 2020 with motor sport a key area of collaboration as Formula E's Gen 2 cars power up for an end-of-year debut. Beyond that, rallycross' transformation from fossil fuels to electric power will follow, benefiting from the experience accumulated in Formula E and other FIA competitions, such as the World Endurance Championship (WEC).

As a leader on research issues surrounding electric vehicles, batteries and charging systems, EDF will continue to work with the FIA on research as well as auditing tests of propulsion, charging and safety. FIA and EDF experts will continue to share information and best practices on the training of emergency personnel, electric vehicle safety standards, and the assessment of batteries on EDF's state-of-the-art test bench, capable of testing very powerful components.

As FIA Technical Director Gilles Simon explains: "Since its beginning in 2014, this partnership has resulted in significant progress on the application of emerging technologies to battery units, engines, charging systems, safety standards and regulations, as well as

infrastructure. The FIA wishes to continue this development with EDF in order to explore these new technologies even further."

Bernard Salha, Senior Executive Vice-President Head of Research & Development at EDF, adds: "The extension of this agreement between EDF and the FIA will allow us to build on the important progress that we have made over the past three years. Being involved in R&D at the highest level of motor sport enables us to contribute to the emergence of the most innovative technologies. This is key for us at a time when new uses of electric energy are being developed. These innovations will significantly influence the development of electric mobility on the consumer market."

TECHNICAL CHALLENGE

Looking into the detail of the motor sport research conducted thus far, Simon says the primary focus has been on energy storage.

"This is about energy storage, and for many years EDF has been working on the evaluation of batteries," he explains. "These days, in place of generators, we have battery containers. For non-continuous systems, such as solar panels or wind turbines, means of storing the electricity produced are required. On such powerful and energy-rich batteries as those used in Formula E this was the priority, because in a race, with the ever-present risk of accidents, the conditions are quite extreme. EDF's expertise revolved around very large static storage batteries. Therefore, we collaborated with them to define the criteria to be applied to mobile batteries."

Salha says that EDF was keen to get involved at a more technical level rather than in a simpler sponsorship role. "Thanks to its expertise, EDF was the natural partner to master all safety aspects around the high-energy components of Formula E power units," he explains. "We had to be there because motor sport is about excellence, as well as being used extensively to test technology for tomorrow's cars in the street. So EDF remains an Official Technical Supplier but does not wish to get involved in sponsorship. ▶

EDF's expertise has been vital in the development of Formula E's Gen 2 racer, capable of completing a full race distance on just one battery.





FIA Technical Director Gilles Simon says the FIA's work with EDF has led to significant progress in battery technology.

Bernard Salha, EDF's R&D boss, believes its work in Formula E will aid the development of electric mobility for consumers.

Our role is to advise, to audit and to support decisions made by the FIA by providing equipment and staff from our R&D department. A good example is the choice of the new battery, which will be supplied to all the teams from Season 5 [2018-2019]: we helped double the autonomy in just a few years."

He adds that the main benefits of this FIA-EDF partnership can already be seen at two levels: electric safety and battery expertise. On the safety side, "various working groups have vastly improved the safety of staff in Formula E: over four seasons of competition, no electric accident whatsoever has been recorded. And even if some areas deserve extra improvements, our work

The new electric eWRX series will benefit from technologies similar to those pioneered in Formula E.

at EDF has hugely contributed to this excellent result. Any electric accident could have proved fatal for such a new and young category of motor sport, with so many other obstacles in its way..."

Another asset, on track and in the pits, is the improved and permanent control of data, which is meant to contribute to better sporting equity in electric championships. For Simon, this is another crucial factor in the attractiveness of Formula E, for teams and constructors, since the very beginning of the series: "EDF provides its expertise in terms of measuring the charge of the batteries and anything that could lead to teams exceeding their limits, in terms of safety, in order to gain a small advantage. Rather than just being able to solve the issue of fairness, it is above all a question of safety. In Formula E, there are a lot of races and a lot of accumulated experience, in particular with regard to the ageing of these batteries, because that was also a major issue. There was no question of making a battery that could only do one race and then be thrown away. They do the whole season.

"The power that a battery produces depends on the number of ageing cycles which it has gone through," Simon continues. "Therefore, in order to predetermine its lifespan, it is necessary to be able to calculate at what point its performance will start to decline. One must therefore always remain within a range that allows the batteries to maintain full power. The biggest technical challenge today is absorbing major peaks in performance. Battery management, over a whole race, is an exercise

that requires a lot of thought and is a new field. There is not much precedent, but this exercise is significant with regard to other possible uses."

MOBILITY BENEFITS

So what is next? "In the short term, the partnership with EDF will enable the verification of the second-generation batteries," says Simon. "They are more powerful, store more energy and are more efficient. There is a lot of work to do on that between now and the end of the year. In the 'Gen 2' Formula E there will be different batteries that will allow drivers to cover the full race distance in the same car. In electric rallycross (eWRX), the battery will probably use similar technologies to Formula E. The idea of our research activities with EDF is to allow the cars to compete in longer races while respecting precise limits in terms of safety."

In regard to EDF's global perspective on energy storage, this partnership has allowed it to make "significant progress over the past three years", reckons Salha. And this is only the start of the story. "Our implication in R&D for motor sport, especially with our engineers in Karlsruhe, allows the most innovative technologies to emerge," he concludes. "It is, for EDF, a key factor at a time when new ways of using electric power are appearing. And this will definitely have a major influence on the development of electric mobility on the consumer market." ◀



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EXCELLENCE IN CATERING



06

Finding a cure for speed

Hollywood star *Patrick Dempsey* might be most recognisable for his role in TV medical drama *Grey's Anatomy*. However, away from the cameras, he's better known as a Le Mans-winning GT racer. And as he joins the FIA's #3500LIVES campaign, he explains why it's time for all of us to slow down...



You are very active in campaigning on health issues, through your cancer research foundation and other causes. Do you see the quest for road safety in a similar light, as a global health crisis?

Yes, I do see road safety in a similar light to global health crises. When you begin to look at the statistics, the raw numbers, it is truly alarming. Even just slowing down on the road slightly makes a huge difference.

Why is a campaign such as the FIA's #3500LIVES necessary?

The #3500LIVES campaign is really important, and I think it can make quite an impact if more people know the facts and have an awareness of road safety. If people have clarity about the simple things they can do, just remembering to slow down a little for example, then it could make a huge difference. It's all about bringing the issues to the surface.

How much do you think the involvement of celebrities as role models can help spread the message of road safety, especially one that is global in nature? Do you believe in the power of role models?

Having the involvement of someone people might be aware of can definitely help bring issues into the spotlight. It's a good thing to share information and bring road safety to the attention of people around the world.

The campaign slogan you are associated with is 'Slow Down for Kids'. It seems an obvious message, but would you say it's something that people don't pay enough attention to?

I believe that people are not aware of just how important it is to reduce their speed, especially in areas where kids might congregate, such as on the way to school. Again, the numbers are pretty startling: just a 5mph decrease in your speed can make a huge difference. I think I'm right in saying that the chances of being seriously injured drop dramatically when you reduce your speed from 30mph to 25mph. It's important to get that kind of message out to people.

'People aren't aware of just how important it is to reduce their speed, especially in areas where kids might congregate'

Have you had personal experience of the other safety issues outlined by the campaign?

I certainly have. I do a lot of travel on the roads and freeways of southern California and I think I've seen and experienced pretty much everything.

You've had a lifelong passion for motor sport. What inspired that and what did motor sport give you that was different to your main career?

My father had a big impact on my passion for motor sports. He was a team owner and I've been a fan of motor sport since I was a little kid. Motor sport has given me a great sense of accomplishment and fulfilment unlike anything else. For example, being able to work with Porsche is a tremendous honour and privilege.

You were pretty good behind the wheel too and you've been on the podium at Le Mans in 2015. What does that feel like?

It's difficult to put into words how meaningful it is to

Patrick Dempsey's campaign message focuses on child safety on the world's roads.



have a goal and then to realise that goal, especially in an environment like the FIA World Endurance Championship, which is amazing. To achieve what we did there was wonderful and very emotional.

What was the high point of your racing career?

I think getting the opportunity to race for Porsche was a big thing. Being on the podium at Le Mans and competing in the WEC and winning at Fuji were all stand-out moments for me.

You have retired from racing now – why did you choose to step back?

To compete at the level I was racing at demands 100 per cent focus and that's hard to deliver when you have another life away from racing. I achieved the goals I set for myself and I think it was just time to step back, spend more time with my family and focus on my career.

You're still involved in managing the Dempsey Racing team. What does that involve and does it provide a different level of enjoyment? Can it replace the thrill of being at the wheel?

Managing Dempsey Racing doesn't replace or compare to being behind the wheel, but having said that I really enjoyed Le Mans last year. I stayed awake the whole 24 hours and never left the pits. It was a completely different perspective and one I really enjoyed.

Finally, let's talk about your career in front of and behind the camera. You're busier than ever starring in a number of films and TV shows including *The Truth About the Harry Quebert Affair*, and you're producing a movie about US racer Hurley Haywood and a project called *The Art of Racing in the Rain* which is about a racing driver's dog. Did motor racing take over for a while and did you need to get back to film-making?

Yes, I'm making the transition from actor to producer and director. What I really learned from motor racing is that I need to do one thing at a time and fully commit to it. My experience behind the wheel has helped me tremendously in other aspects of my life. My goal is to bring the sport that I love so deeply to a wider audience, to share it with people cinematically and give them the chance to experience that thrill.



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06

Pillars of Progress

TEXT / JUSTIN HYNES

The FIA is made up of three core elements, with its Sport and Mobility arms allied to a Senate tasked with overseeing the management and finances of the Federation. Here, the men charged with leading each branch explain the goals they've set for the coming months and years

Brian Gibbons

President of the FIA Senate

/

Having served two terms as the FIA's Deputy President for Mobility and Tourism, New Zealander Brian Gibbons is now at the head of the FIA Senate, a body he sees as central to the well-being of the Federation as a whole



After two terms as Deputy President for Mobility and Tourism, you're now heading up the FIA Senate. What will you take from your previous role to this new post?

I think having that 'coal face' experience in Mobility, responding to the diverse needs of member clubs, opened my eyes to the vital importance the Senate plays in fostering the financial competence and well-being of the whole organisation, and the consequences this has for supporting the needs of member clubs and motor sport in general. It is pretty evident over Jean [Todt's] first two terms as president that the FIA has grown a lot in strength and diversity. You only have to look at the FIA's improving financial position - we have seen our budget increase to approximately €100 million per annum but we have a similar level of financial reserves - the new motor sport championships, increasing use of best practice, and the wider role of member clubs in road safety, to see how far we've come over the past eight years.

For those not familiar with how the Federation works, what is the role of the Senate in your view?

An important responsibility for the Senate is to ensure the organisation maintains the underlying resources and staffing necessary to keep pace with the rapid development we've seen in recent years. I like to use the analogy of a motor car. As we go further and faster we must ensure we don't lose traction, and that the engine room of the organisation is able to keep pace and is never wanting. The role of the Senate is to support the FIA organisation to enable President Jean Todt's plans, and support the mobility and motor sport pillars to grow and develop. Our job is to ensure the FIA's progress is never compromised by our financial position, or its sustainability in terms of meeting the FIA's needs going forward. That means continually working to develop best practice, prudent management and ensuring the governance of the organisation is beyond reproach.

The FIA recently established an Innovation Fund aimed at supporting future-focused projects. How important is that fund in this administration's final term?

The establishment of the FIA Innovation Fund from the proceeds of the sale of Formula 1's commercial rights is an area in which the Senate can play a key role in overseeing the prudent management of the

FIA's finances. It's an exciting one-time opportunity to deliver a lasting legacy for both pillars of the Federation and the organisation as a whole. I see solid representation on the Senate from both the motor sport and mobility pillars, plus the outside expertise of its independent members, as a firm foundation for ensuring the organisation can continue to thrive and develop.



Thierry Willemarck

FIA Deputy President for Automobile Mobility and Tourism

The FIA's new Deputy President is focusing on even more potent advocacy, as well as club development and better support for FIA member clubs worldwide

You're six months into your new role as Deputy President for Automobile Mobility and Tourism, so what have you identified as the main areas you want to focus on?

I think the message is three-fold. The first element concerns advocacy for safe and sustainable mobility. The second is how do we act to support club development, and thirdly how do we engage with members? Looking at advocacy, it is at the core of the FIA's DNA. Our ambition is to be a leading global advocate for safe and sustainable mobility. Over the past eight years, President Jean Todt has elevated the FIA's focus on road safety and this is strongly supported by FIA member clubs throughout our global network.

One of the most recent developments we have seen is the launch of the UN's Road Safety Trust Fund, which President Todt has been particularly involved in setting up. He has tasked the FIA Mobility arm, through our members, to see if there is a good project that could demonstrate how the funding could be utilised as well as developing potential funding mechanisms to provide for the fund. That is something we are looking at in the short term. We also have to convince our clubs to undertake the lobbying necessary to get countries that have not signed resolutions in regard to road safety to do so. That is hugely important. More widely, I think what is underlined in the mandate for

the current term is that the FIA leadership team has committed to place increased emphasis on sustainable mobility. In particular, we must support our member clubs to address the challenges of CO2 emissions from the transport sector, and issues of air quality and traffic congestion in major cities around the world. Our focus is very much on the consumer perspective. Our aim is to help member clubs stand up for the interests of their individual members – to preserve choice and to ensure that access to mobility solutions is accessible and affordable for all. What is important too is that in this we are no longer talking about motorists alone, we are talking about all road users – cyclists, pedestrians, public transports users. All of this is encompassed by the word mobility and it is represented in the actions being taken by our clubs around the world.

FIA University alumni to ensure that we maximise the return on the investment that clubs are making. We already have more than 150 club leaders who have attended these courses and we are not tapping the resource of these alumni enough. There is a fantastic network worldwide and we need to make use of it. We must follow through on the agenda provided by the Vision 2030 project, which I initiated within FIA Region I, to build stronger collaboration in the Mobility regions to enhance the capabilities of clubs at each stage of development. This year we have also launched the FIA Innovation Fund, which provides a great opportunity to access the best ideas from within the FIA regions and create lasting and tangible value of benefit to the whole FIA network.

The third element you mentioned is engaging with members. Why is that crucial to what they do?

We must strive to make the FIA more relevant for members. It's important that they know what they pay for and what they get for that. The culture in the leading Mobility clubs is very democratic, and emphasises the importance of good governance and collective decision-making. Effective communication and engagement with member clubs is essential. In particular, I want to start by encouraging stronger interaction within the Mobility World Council. Having been a member of the council for many years, I feel it is too passive. We have some great people involved and we need to encourage them to share their experience to build a more dynamic exchange between members.

You mention the action of clubs around the world, which feeds into supporting club development. How do you see that happening in the future?

A key part of my strategy for FIA Mobility focuses on empowering clubs through learning and exchange. A project that I have been the mentor of and that I helped start five years ago is the FIA University, and I am committed to taking this valuable initiative to the next level. Next to the ESADE business school in Barcelona we also now have the Columbia business school in New York, which delivers a new curriculum that we have developed for the leaders of clubs. But we can do more to make use of the growing pool of



'Advocacy is at the core of the FIA's DNA. Our ambition is to be a global advocate for safe and sustainable mobility'

Graham Stoker

FIA Deputy President for Sport

The head of the FIA's Sporting pillar is targeting the development of strong sporting authorities – and aiming to include motor sport at the Youth Olympics

As we enter the third term of this administration what are the chief goals you have set for motor sport over the coming four years?

Over the first two terms, I think we have succeeded in changing the face of the FIA from kind of an old-fashioned regulator to a modern international federation. However, we still have lots of hard work ahead of us in the four years coming and one of the areas I'm particularly passionate about is motor sport development. One of the things I'm very aware of going around the world is that we need to make sure the

revenue base of ASNs is strong. We need to help them capitalise on their assets, because that generates revenue, which is used to grow the sport. So we need to make sure they've got a national leadership role that's recognised by government and that they are generating strong revenue. The next thing we would like to see is a functioning pyramid within countries, a racing structure where you don't only have elite levels but you also have affordable grassroots levels. A country might come in at the very top level and build an F1 circuit to put themselves on the map and energise tourism but the grassroots level is entirely missing, or there might be very active grassroots racing but drivers have nowhere to go afterwards. So it's that comprehensive pyramid I want to see constructed.

The FIA recently established two new sporting commissions covering Environment and Sustainability, and Disability and Accessibility. How important are those to you as development items

for the next couple of years?

They are crucial. You cannot just be a federation that carries out sport anymore; you've got to show that you not only provide sport but also that you undertake it in the best manner possible. It is important for our efforts to grow motor sport that we demonstrate those qualities, as it strongly increases your position in the eyes of government. We are now well advanced in aspects such as environmental protection, which is key in motor sport, as well as peace through sport, young people's involvement and women in motor sport. If you do all those things as a national federation then you are not simply a sporting federation, you have a wider role and it protects you for the future.

Motor sport in Asia seems to be in the limelight at the moment, with the FIA's Sport Conference taking place in the Philippines in June and a new Asian Formula 3 Championship set to launch this summer. Is Asia a key area of focus?

The interesting thing about the Asian region is what they have

achieved in the past two decades. The region has become a real power in motor sport. Asia gives us confidence that we can tackle development issues around the world, which is very exciting. That is why we are very excited to be in the Philippines for this year's FIA Sport Conference.

You mentioned an integrated racing pyramid – how important is Asian F3 for the region?

Very. The difficulty we had is that Formula 4, the FIA's nationally-based, entry-level series, has been extremely successful but the next step for drivers in F4 was to race in F3, in the European championship, so a lot of drivers for not many seats. Regional F3 championships and the construction of an International F3 series racing alongside Formula 1 and F2 makes sense. On the other side of the pyramid, we just rolled out our Crosscar concept, an entry-level off-road vehicle, at the Sport Congress for the MENA (Middle East and North Africa) Region and we are bringing a car to the Philippines. I was concerned that there was nothing like karting with the young in off-road competition in order to develop rally and cross country drivers. So Crosscar will be available for people to drive from, say, age 13 onwards, which will be pretty affordable – we are trying to get the price down to below €15,000 if we can.

Finally, if you look ahead over the next three months, what is on the immediate horizon?

I think there might be a real opportunity to run an event in association with the Youth Olympics in Argentina. We are examining the possibility of using electric cars in a kind of mobility showcase environment and making them available for the athletes of the Youth Olympics. I think that could have profound effects on the approach to motor sport internationally.



07
'He
wasn't a
machine,
he just
drove
one'

TEXT
/
SABINE KEHM

Michael Schumacher's manager recalls the seven-time Formula 1 world champion as a complex but highly-regarded individual as well as a driven perfectionist on track - and explains why only a chosen few got to see the man behind the machine

Michael Schumacher finds his focus at the 2005 British Grand Prix. "It was important to know his car in every minute detail," says manager Sabine Kehm.



Before his F1 break, Schumacher enjoyed success with the Mercedes junior team in the 1990 and '91 World Sportscar Championships.



At the Nürburgring in 2000, the year in which he would finally secure his first drivers' title for Ferrari, with four more to follow...



It was with Benetton in 1994 that Schumacher became the first German F1 world champion, dedicating his win to the late Ayrton Senna.

Passionate, generous, respectful. Fierce, strong-willed, driven. Attributes like these all form a complex human being and they in no way offset each other. In their duality, they are far more fixtures of a personality that dominated motor sport for more than a quarter of a century in such an unprecedented way. And they continue to fascinate and inspire people, perhaps precisely because of the wide range of traits.

Michael Schumacher is an icon, a giant, already a motor racing legend. The epitome of the perfect racing driver, technically brilliant with excellent engineering know-how, mentally unbelievably strong and athletically trend-setting. The record world champion, the indisputable *primus inter pares* of his time – and his time covered several generations of racing drivers.

In his career, however, he not only had to battle with his opponents or technology, but also with many misunderstandings that long stuck with him like rubber from the tyres left on the track. It was only in the autumn of his career, in his Formula 1 years with Mercedes, that people were prepared to see more in him than the uncompromising fighter who they admired on the racing circuits of this world. While they had taken him to their hearts before because he lived their secret dream of success and wealth, the obligation to deliver seemed to have finally dissipated and people's adoration became unconditional.

Those who know him more closely could never understand the long-time reservations of the media in any case. Right from the start, they knew the stickler for justice as they did the jester, the generous benefactor just like the committed family man – all facets that only his circle of friends got to see. They always valued his ability to listen and acknowledge the opinions of others,

but they also experienced the insecurity that accompanies rapid fame and Schumacher's strong need for his very own private sphere, something that became more and more pronounced with increasing popularity.

With the same meticulousness that he used to propel his professional development forward, he shielded his private life and his family from the public – and consciously accepted that, as a consequence, people had trouble in seeing more than just the one aspect.

BEYOND PERFECTION

They were part and parcel of everything for years, the attributes that appear to nicely fit this model German, who himself was responsible for not wanting to correct them – he is a machine, a merciless perfectionist. As it was not his style to show his feelings in public, they were quickly considered to be non-existent. With this weight of evidence, as he saw it, Michael Schumacher became more and more alienated in his public years. “Do I have to demonstratively show that I actually have feelings so that people believe I'm capable of them?” he often asked, and then on most occasions immediately supplied the answer: “It's two-faced.”

Many clichés that accompanied him for the duration of his career are, however, true. Michael

‘Do I have to show that I actually have feelings so that people believe I'm capable of them? It's two-faced’



Michael's glory years at Ferrari in the early 2000s were happily shared with the team, in those days led by FIA President Jean Todt.



embodied the typical German characteristics, was always loyal, reliable, duty-conscious, matter-of-fact. Like every ambitious person, he definitely did not like losing and had trouble dealing with defeat, but his definition of winning was never one-dimensional. He could find a battle for third place extremely satisfying if he had won it and it was the maximum his performance was going to achieve.

A journalist who was long at home in the paddocks of this world once put it very vividly, “He isn't a machine, he just drives one.”

Highly noticeable was just how incredibly quickly he could learn and adapt, how quickly he could change, how quickly he could grow with new conditions, new regulations, new generations. It was driven by the deep conviction



The German equalled Juan Manuel Fangio's tally of five world titles in 2002 – this is Indianapolis, where team-mate Rubens Barrichello slipped by for the win.

that stagnation is a step backwards, but above all in the formative years it came from the fear of making mistakes. After all, there had been no German heroes from whom he could learn how not to put his foot in it.

So, Michael Schumacher absorbed what he saw, he asked uninhibited questions, appraised himself both as a person and in terms of his performance. He also went to great lengths to educate and train himself not only as a racing driver but also as a person, to enormous effect. A key figure in such a complex and complicated entity like the sacred national Italian institution that is the noble brand Ferrari, is not something one becomes through victories alone.

It is something one becomes when one is a highly enthusiastic team player. Michael Schumacher celebrated the 'we feeling' even when his word had immense weight. ▶



His early karting days were central to Schumacher's success in motor sport and were never forgotten.

Schumacher enjoyed every success, even if it wasn't for victory, although as his overalls attested there were plenty of those too.



His final title success with Ferrari in 2004 was emphatic – Schumacher won 12 of the first 13 races to secure the crown and took a record 13 victories overall.



‘What I love most of all is to sit in the garage and watch the guys working’



The German was tempted out of retirement to drive for the new Mercedes team in the autumn of his F1 career, finally hanging up his helmet in 2012.

“What I love most of all is to sit in the garage and watch the guys working,” said the trained car mechanic once, and his men rightfully felt they were valued.

Schumacher's sense of team spirit even went so far that for him it included not only his team but also extended to his racing cars – so much so that he considered his car a partner with whom he jointly entered the battle that ennobled every race. For him, it was important to know his car and to both understand it in every minute detail and to set it up with equal precision. The biggest disadvantage of Formula 1, he once said, was that you could not do any of the mechanical work on the car like in his karting days.

It is often forgotten that this is where Michael Schumacher's roots lie, in a kart circuit sitting in a gravel pit outside the village of Kerpen-Manheim. If a person's origins mould him or her, then it is very true in Schumacher's case as he always believed that he had to perform. For almost right up until being given the unexpected chance to break into Formula 1, it was his only life experience, as the Schumacher family did not have the financial means to support the motor racing career of their son. It meant he always had to rely on benefactors. No performance, no chance – it was as simple as that.

Michael Schumacher learnt early on that results were more important than everything else. Before it was time to deliver, he did not allow himself to be distracted – at least not on the racing circuits. “Blinkered,” is how he always called it and in fact his narrowing focus on the race during a race weekend was palpable for everybody around him. This ability in a world full of distractions was what made his huge success possible in the first place, and then accelerated it over the decades.

Fighter, competitor, racer. Many years ago, Michael Schumacher drove suddenly and emphatically onto the world stage that Formula 1 provides and in doing so drove himself into the hearts of all motor sport fans.

He has remained there ever since. Those who wanted to see it saw the deeply ingrained passion they were aware of themselves – every time he steered his car out onto the track, pulled off no-nonsense manoeuvres in his duels with the other drivers and every time he stood on the podium to celebrate a victory. Here I am a person, here I am who I am. ◀

Champion, legend... and friend

TEXT
/
JEAN TODT,
FIA PRESIDENT

It's difficult to put into a few words what Michael Schumacher means to me. When it comes to what he achieved as a Formula 1 driver, the statistics speak for themselves, starting with those seven world titles and 91 Grand Prix wins, as well as countless other amazing records he wrote into the annals of grand prix racing, some of which will probably never be matched or beaten.

Personally, I was extremely fortunate to get to know Michael really well, having first come across him as an enormously committed rival, initially in endurance racing, and then in my first years as team principal at Ferrari.

From 1996 to 2006, we lived through an amazing decade in the history of the Scuderia, as the Maranello marque returned to winning ways for the first time in 20 years.

I remember saying to him, as we were walking up to the podium in Suzuka on the October 8, 2000, after Michael had clinched his first

title with Ferrari, that from now on, our lives would never be the same again.

And so it turned out, but by then our relationship had already changed, going beyond the usual team boss and driver dynamic and becoming a close friendship. And with each passing day, sharing the good times and the bad times, I found out who Michael really is.

Back then, he was a youngster, still growing up. He was humble, generous, passionate, determined and tough, but at the same time, he could be fragile, with an innate shyness, that on occasion could make him appear arrogant to the outside world.

Realising we had certain values in common, we became good friends, and that led us to embark on a number of projects together, such as the one with another friend, Professor Gérard Saillant, with whom we established the ICM (Institut du Cerveau et de la Moelle Epinière), a medinstitute that looks into cerebral and spinal cortex injuries.

We also shared some very important and sometimes difficult moments, such as his 2006 decision to hang up his helmet, which meant that over the next few years we were able to spend more time together in different roles, without the constant pressure that comes with Formula 1.

I recall his growing desire to go racing again, the pain at not being able to do it with Ferrari and then immediately after that, the chance to join Mercedes where he put all his experience and talent to work to help create an extraordinary team, just as he'd done 15 years earlier in Maranello.

Today, Michael continues to tackle his most difficult challenge, fighting for his life. By his side is his exceptional wife Corinna and his two grown-up children, Gina Maria and Mick, of whom he would be very proud. My thoughts and affection are always with him, wherever I am.



Jean Todt and Michael Schumacher celebrate victory at the 2006 Italian Grand Prix.



Michael congratulates his former team boss following Todt's election as FIA President for the first time, in 2009.



07

COMING HOME

As the Circuit Paul Ricard prepares to take centre stage in the latest chapter of the French Grand Prix story later this month, AUTO looks back at the Provençal track behind some of Formula 1's most famous moments, with the men who made it possible

TEXT

/ DANIEL ORTELLI

After a decade of absence from the Formula 1 calendar, this month the sport returns to the spiritual home of grand prix racing for a new iteration of the French GP. Hosting this latest chapter in a story that takes in venues such as Reims, Rouen, Dijon and even Le Mans is a track that remains the second-most visited in the race's history – Circuit Paul Ricard.

The brainchild of the drinks magnate for whom it is named, the track at Le Castellet, Provence first hosted F1 in 1971, with Britain's *Motor Sport Magazine* simultaneously branding it the most modern autodrome in Europe and 'nice and hygienic, not to say clinical'. In the decades that followed, during which the circuit thrived as the home of the French Grand Prix and then withered until its reinvention in the early 2000s, the track played host to some memorable moments and truly remarkable characters. Here, Daniel Ortelli, author of *Circuit Paul Ricard, Les Seigneurs de la F1* recalls the men who defined a stalwart location at the heart of French racing. ▶

Jackie Stewart took the winner's laurels at the first French GP held at Paul Ricard in 1971, with Tyrrell team-mate François Cevert second and Lotus's Emerson Fittipaldi in third.



PAUL RICARD

Born in 1909 in Marseille, Paul Ricard created 'pastis' and founded the Ricard Group. Now known as Pernod Ricard and home to a vast array of brands, it is the world's second largest purveyor of wines and spirits.

In his youth Ricard wanted to be an artist, but his life took a different direction: his own version of anis, liquorice and herbs would make him a millionaire by the age of 23, but the Second World War forced him to move to Camargue with all his employees to save them from being sent to Germany as forced labour.

At the end of the war, Ricard resumed making *pastis*, identified by the colours yellow and blue, and under his progressive watch his staff benefited from flexible working hours, profit sharing and retirement savings. He also got involved in a number of sponsorship

deals, notably in cycling at the Tour de France, and in the local sport, *pétanque*.

His interest in motor sport came later, at the end of the 1960s, when he retired and realised that a number of French drivers (including Jean-Pierre Beltoise), constructors (Matra) and brands (Elf) were creating a passion for cars and races among the public, and that racing might be a good way to not only keep him busy but to promote the Ricard brand. Thus he built Circuit Paul Ricard in only a few months, between Marseille and Toulon, and started hosting major events in 1971 on two and four wheels: F1 drivers and famous bikers such as Giacomo Agostini and Barry Sheene raced and won at this modern and safe track. So began a long love story between motor racing and Circuit Paul Ricard.



James Hunt took his sole French GP win at Paul Ricard in 1976 for McLaren, ahead of Patrick Depailler and John Watson.



Alain Prost took the first of four F1 wins at Paul Ricard in 1983 while driving for Renault, although his association with the track went back much further.



ALAIN PROST

The four-time Formula 1 world champion trained at Circuit Paul Ricard from 1975, at the famous Elf-Winfield driving school, after giving up his boyhood dream of becoming a professional football player at Saint-Etienne. He then won the famous Volant Elf and earned a season in Formula Renault, finishing as champion. Prost won for three different F1 teams at Le Castellet: Renault (1983), McLaren (1988/89) and Ferrari (1990). He still holds the record for most wins at the circuit, and only Brazil's Jacarapagua figured more highly in his personal tally of multiple wins, with five.

Prost enjoyed every moment spent at Paul Ricard, especially during private testing in the 1980s, when he listened, behind a closed door, to Mauro Forghieri explaining to Enzo Ferrari how the day had gone for the Scuderia: "We had no mobile phones. Forghieri's report was slightly different from what actually happened," Prost smiles, over three decades later.

The 'Professor' also remembers a couple of crucial overtaking manoeuvres in the very fast Signes-Bausset portion, where he had developed a special line in his early years as a Formula Renault driver. It's where he passed team-mate Ayrton Senna in 1988 and Ivan Capelli (March) in 1990, on his way to his second and fourth wins. "It was like an open temple that everybody could enter," he recalls.

At the end of his first stint in F1, Prost tested a Ligier at Circuit Paul Ricard, but owner Guy Ligier refused to sell the driver shares in his team and Prost took a sabbatical before returning to the sport in 1993 with Williams. He then retired with a fourth world title and bought out Ligier at the end of '96 to create Prost Grand Prix. Now a special adviser for Renault F1, Prost will this year return to the scene of some of his finest wins, though this time in the garage. ▶

Niki Lauda staged a lights-to-flag victory for Ferrari at Paul Ricard in 1975, the year he first became world champion.



FRANÇOIS CHEVALIER

Trained as a psychologist, François Chevalier had a passion for motor sport and worked as a driving instructor at various tracks in France before sending his CV to Paul Ricard in the summer of 1969. Hired that December to take care of promotion alongside general manager Jean-Pierre Paoli, Chevalier was promoted when Paoli left. For almost 30 years he managed the track with a smile on his face and a pipe in his mouth. His mix of kindness and professionalism, a laid-back attitude and love for all forms of racing were of huge benefit.

In 1999, when the track was sold to Bernie Ecclestone's family trust, Chevalier was in charge of ending all contracts and was the last man to leave the ship. A famous painter/sculptor he now exhibits his bronzes at motor shows, still with a smile on his face and a pipe in his mouth.



BERNIE ECCLESTONE

When Bernie Ecclestone bought out Circuit Paul Ricard in 1999, it looked like another coup for the then F1 ringmaster. This was made possible by his good relationship with Patrick Ricard, who was happy to get rid of the costly asset following the death of his father, Paul, in 1997, and the tightening of anti-alcohol laws on the French territory.

With the French Grand Prix then secure at Magny-Cours, Ecclestone took Le Castellet in an altogether different direction, enlisting GP promoter Philippe Gurdjian and tasking him with renovating the complex and reinventing it as the Paul Ricard High-Tech Test Track (HTTT), with one of the first major events being the launch of Toyota's F1 programme in 2001.





'Gurdjian introduced a number of significant improvements to maintain the track's position as a state-of-the-art facility'

PHILIPPE GURDJIAN

The former French Grand Prix promoter was more than a master of ceremonies at Paul Ricard from 2000-08. Gurdjian introduced a number of significant technical improvements, from the installation of track lighting to the construction of a video control room, maintaining the track's position as a state-of-the-art facility.

Gurdjian earned the circuit the first FIA label of Excellence for Safety before moving on to work at other tracks such as Sepang in Malaysia and Abu Dhabi, where Yas Marina is proof of his talent and genius. He passed away in 2014 when the return of Formula 1 to Le Castellet was still in the works.



GÉRARD NEVEU

Now CEO of the FIA World Endurance Championship (WEC), Gérard Neveu first came to Paul Ricard as a radio announcer for local station Vitamine during the French GPs at the tail-end of the 1980s. Philippe Gurdjian hired him in the spring of 2001 as track director and Neveu thus took charge of all testing sessions during the era when the circuit was closed.

When Gurdjian left in 2008 Neveu was promoted to general manager and convinced the circuit's administrators it was time to re-open the gates to fans. The move proved successful, but when Neveu realised that it would be tough to achieve F1's comeback in Provence in the short term, he moved on, launching the WEC with Pierre Fillon and the Automobile Club de l'Ouest in 2012.

There was an all-French podium at Paul Ricard in 1982 when René Arnoux won from Alain Prost and Didier Pironi.



ARCHIVES RICARD, BERNARD CAHIER, BERNARD ASSET



STÉPHANE CLAIR

A former top-level motorcycle racer, Stéphane Clair took over from Gérard Neveu in 2011 with fresh ideas and a huge network of contacts and friends. He continued to manage the return of major events to Le Castellet, especially Bol d'Or, the famous 24-hour bike race which made the circuit famous at the end of the previous century. He also created special events for runners and cyclists, Mini owners, bikers and music fans, etc.

In the meantime, Clair tried to convince all around him that it was time for the return of the French GP. "Everybody laughed at me, they thought I was crazy," he recalls, but he kept working on the project with McLaren racing director Eric Boullier and Renault Sport managing director Cyril Abiteboul in the F1 paddock. When Christian Estrosi, another ex-bike racer, became President of Région Provence Alpes Côte d'Azur in 2015, the stars were finally aligned.



Prost's final Paul Ricard win was in 1990 – the year the circuit hosted its final French GP.

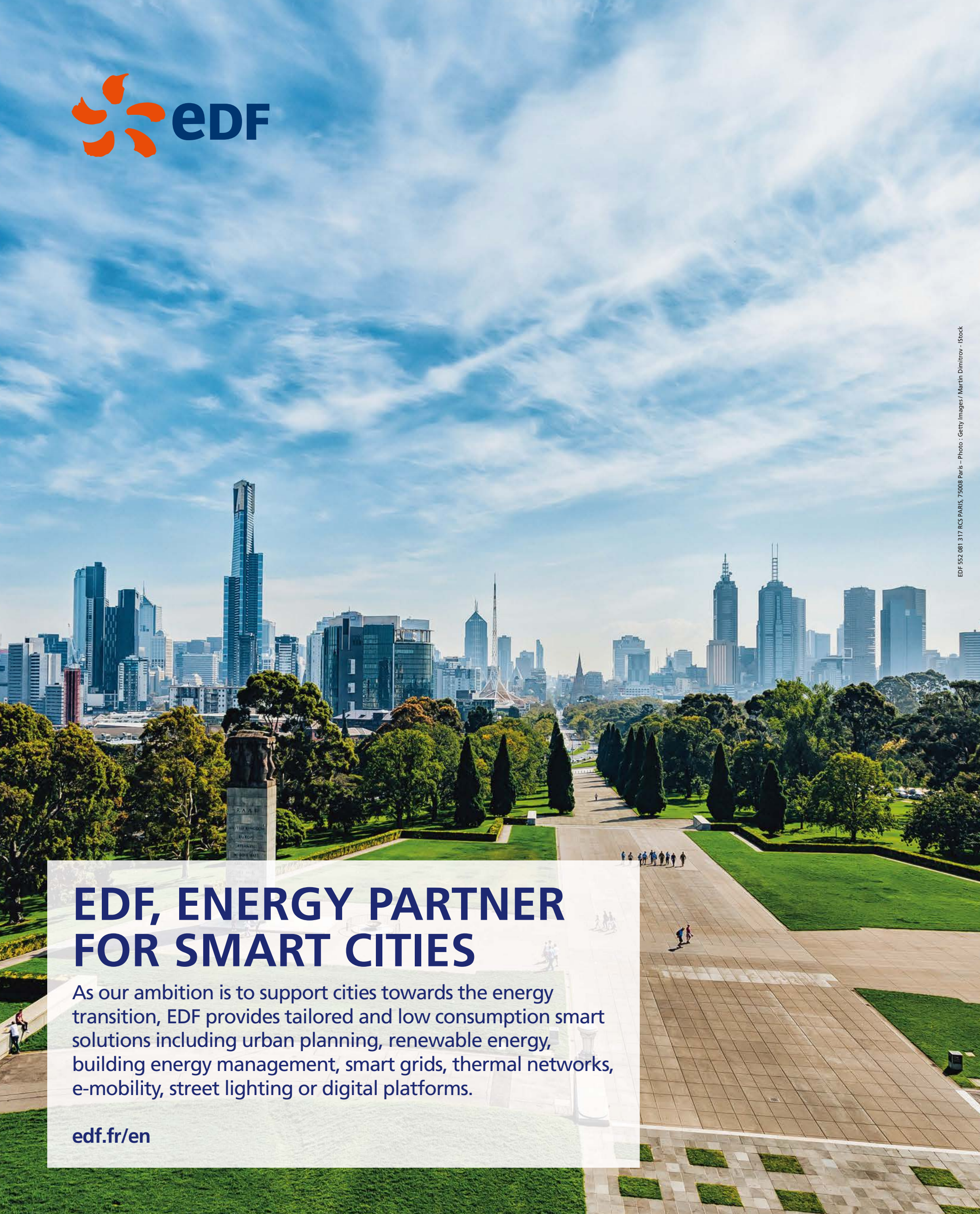
CHRISTIAN ESTROSI

The Mayor of Nice raced on Circuit Paul Ricard as a young rider against champions such as Barry Sheene and Giacomo Agostini, and then became a Kawasaki dealer in his hometown. He turned to a political career and became a right-wing MP, who in 1991 voiced doubts about the French GP moving to Magny-Cours.

Estrosi was in charge at the highest level as a Minister of Industry in 2009-10 after F1 left Magny-Cours, when a potential new track, close to Paris, was on the agenda. Then in 2015 he became the President of Provence and convinced local authorities, from Nice to Marseille, that it was time to make Paul Ricard the French home of F1 again with a projected annual benefit of €65 million for the local economy (according to Deloitte experts). He signed a five-year deal with Bernie Ecclestone and announced it one year later. Now the stage is set, let the show begin! ◀



Circuit Paul Ricard, Les Seigneurs de la F1, by Daniel Ortelli (Editions Gilletta, May 2018), 184 pages, 250 pictures by Bernard Asset, Bernard and Paul-Henri Cahier, 29,90 euros (www.editionsgilletta.com)

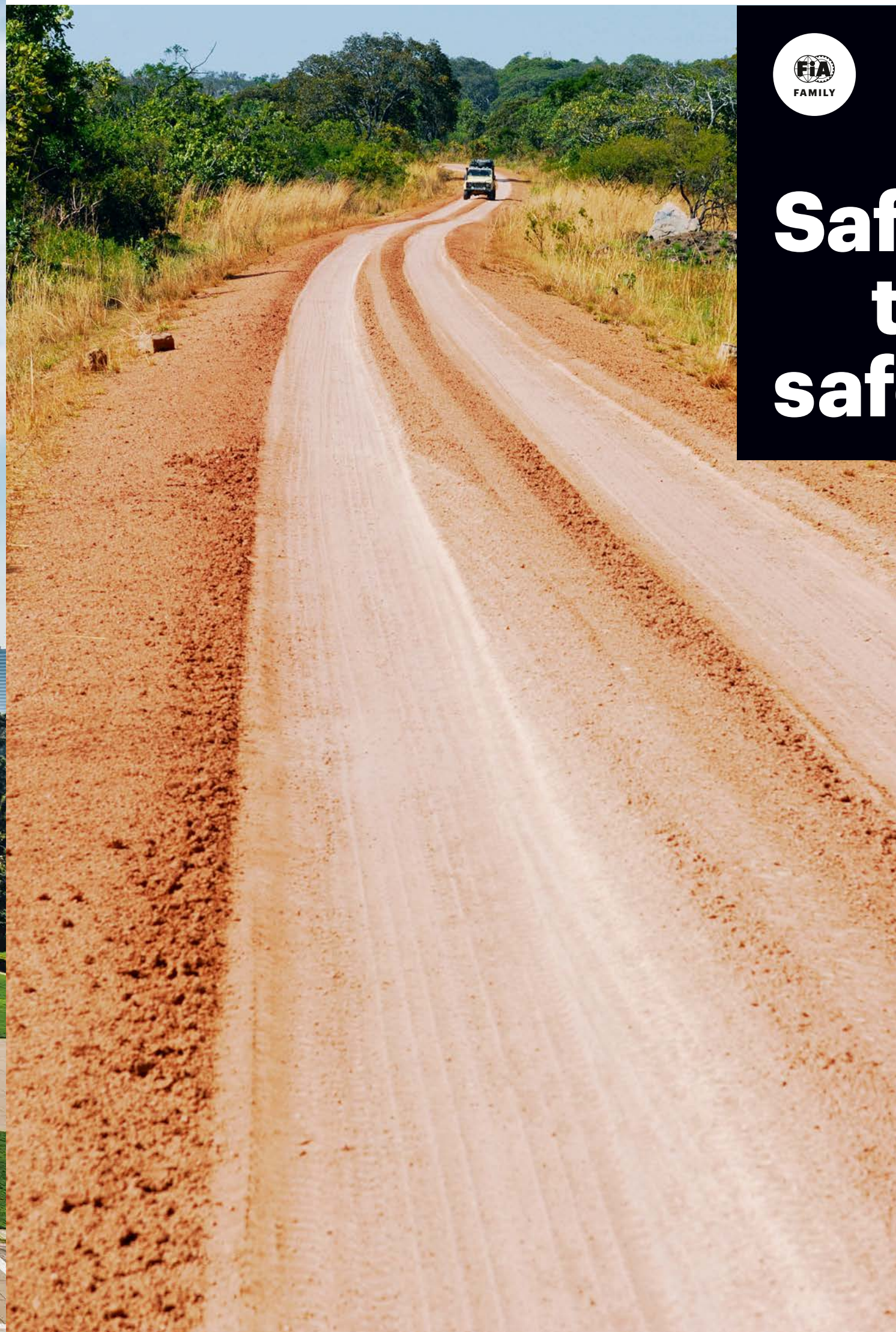


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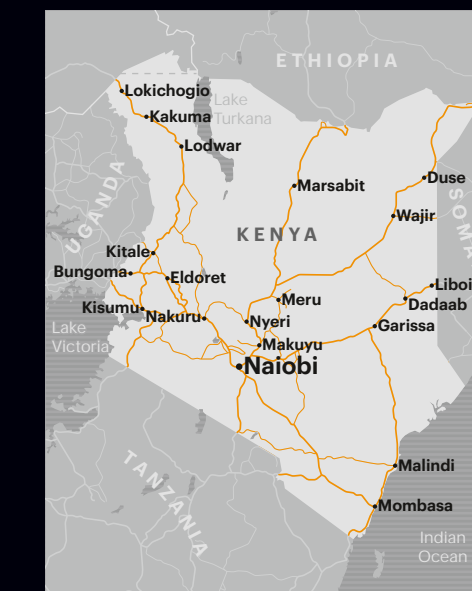
08

Safari towards safety

Kenya's mobility and sporting clubs are working towards safer road use through a range of initiatives – and via the possible reawakening of a dormant giant of world motor sport

TEXT

GAIA PELLICCIOLI



Automobile Association of Kenya

Moving in the right direction



As mobility on Kenya's roads grows, AAK president Jinaro Kibet is working to ensure that safety improves too.

'Welcome to the real hub of Africa' says the sign you read when you enter Nairobi, but if the Kenyan capital is proclaiming its ambitions boldly, it has every justification: the country is currently one of the most economically, financially and logistically dynamic states in Africa.

Despite the fact that it does not possess an abundance of natural resources as do many of its neighbours, the former British colony was reclassified as a lower to middle-income country in 2014 and reached a medium-term growth rate of 5.8 per cent in 2017, according to the World Bank, making it one of the fastest growing

economies in Sub-Saharan Africa.

While the country still has 46 per cent of its population living below the poverty line according to UNICEF, improved economic circumstances have led to a growing middle class with greater spending power – and in recent years that has meant an increased demand for mobility. In 2017, Kenya's motor vehicles sales grew by 12.1 per cent, according to CEIC data. Serving the needs of an increasingly motorised population is the Automobile Association of Kenya (AAK).

"Over the years AA Kenya's growth has been driven by the purpose of

adding value to motorists with unique and growing needs," explains AAK President Jinaro Kibet.

"Currently it is estimated that an average middle class family has at least two cars," he adds. "For the AAK this is an expansion of potential market/members within the family."

For President Kibet, one of the keys to the AAK's success – which currently has 31,000 active members and 26 branches distributed across the territory – is collaboration with the private sector in order to deal with a changing marketplace.

"To ensure membership growth," he says, "the association has established partnerships with insurance companies/brokers as well as new and second-hand motor dealers to provide membership services to clients.

"However, in view of the changing marketplace, due to the development of technology, it has become necessary for the AAK to change the mode of acquisition and retention of members.

"The association is now looking towards investing in technology (mobile applications) that will create convenience for members in joining AAK and in their quest for services."

More Kenyans are being educated on safe driving through a range of new AAK-backed initiatives.

TARGETS FOR GROWTH

Targeted services for diverse clients have enabled the motoring club to adapt to a complex environment, where the economic-demographic development and shortcomings in the management of mobility and transport are two sides of the same coin.

"In Kenya there is a vehicle population of 2.7 million and 1.2 million motorbikes, and both are expected to increase at a high rate annually," says Kibet.

In this context, even providing effective emergency rescue services has become a challenge.

"The objective of any emergency rescue is to reach the caller within the shortest possible time," adds the club president. "More cars on the road means heavier traffic, affecting our response time.

"To deal with this we have established a Rider Rescue Team, which has the ability to reach a member within a shorter time than a van would. The rider is able to deal with minor breakdowns and, where not possible, a rescue van is availed."



The club's PSV Defensive Driver and First Aid Training Programme has been designed in partnership with St John Ambulance to benefit public service drivers.

If the growth in membership is a sign of the club's robust health, on a wider level, increasing motorisation has led to a concomitant increase in road crashes and fatalities.

"According to the National Transport and Safety Authority, 331 passengers have lost their lives as of 16 April, 2018," says Kibet. "A total of 3,207 lives were lost on the Kenyan roads in 2016 compared to 3,658 who died by the same time in 2017."

Speeding, drink-driving and a lack of driver training, among other factors, have contributed to this fatality rate. Kibet highlights specific sections of road and specific sectors of the Kenyan population where the risk is most prevalent.

"The Northern Corridor [Mombasa to Malaba] registers the highest number of crashes, fatalities and injuries, with 160 registered black spots attributed to poor road engineering, poor driver education and poor enforcement of traffic rules," he explains. "The most affected age group are young people aged 18-45, who are the most productive members of our society. The economic cost of road crashes is 300 billion Kenyan pounds annually, which is 5.6 per cent of Kenya's GDP."

It's a situation that in December 2016 resulted in the Kenya National Transport and Safety Authority – in co-operation with UNECE, the World Bank and other international transport groups – organising a Road Safety Workshop for Anglophone Africa in Nairobi, with FIA President Jean Todt in attendance in his capacity as the UN Secretary General's Special Envoy for Road Safety.

The workshop, in which road safety experts from more than 20

African countries and NGOs took part, focused on road safety data management and the importance of regional cooperation in tackling the road safety scourge.

The toll on the country's roads has led to a growing focus on road safety matters for AA Kenya and its president.

"The AAK has for the past several years been lobbying the government for the introduction of a structured and standardised driver training curriculum," says Kibet. "This finally bore fruit, and in 2018 the government introduced a new driver training curriculum for Learner Drivers, Public Service Vehicles (PSV) Drivers and Instructors Training."

The club has been working closely with the National Transport and Safety Authority to roll out a number of road safety initiatives.

This has gone a long way in advocating for motorists rights, increasing road safety awareness as per the UN Decade of Action pillars as well as generating revenue for the club.

The initiatives focus heavily on driver training and include a series of Ladies' Auto clinics, a partnership with industry players to increase knowledge among female motorists on how to be safer drivers.

The club also initiated a PSV Defensive Driver and First Aid Training Programme. Funded by the FIA, this programme, designed in partnership with St John Ambulance, helps equip public service drivers with defensive driving and first aid skills for accident prevention and post-crash care response.

Furthermore, the club has launched a Boda Boda Safer Rider Training Programme aimed at

improving the riding skills and experience of drivers of the motorcycle taxis, helping them to earn valid licences and informing them of the value of safety gear.

"The initiatives have been executed as pilot programmes and have provided critical information to guide us in scaling them for long-term sustainability and impact within the road safety agenda in Kenya," says Kibet.

With 47 per cent of road deaths in Kenya occurring among pedestrians, the club's Safe Walk to School Children's Training Programme is an area of keen focus. "In Kenya, most children walk to school every day with a majority of them attending schools located near busy roads," Kibet explains.

"With children being identified as one of the most vulnerable road user groups at risk across several levels, AA Kenya, in partnership with National Transport and Safety Authority (NTSA) and the Kenya Traffic Police, is raising the next generation of responsible road users through our Safe Walk to School Road Safety Programme."

To promote road safety in the country, the AAK will this year be running the FIA's #3500LIVES road safety campaign, the first worldwide outdoor campaign on road safety produced in partnership with advertising giant JCDecaux.

'We believe the greatest value we can add to our members is to champion the road safety agenda'

"The association will partner with elite Kenyan athletes to run the campaign," says Kibet. "This will help draw people's and the government's attention to it as the athletes are respected by all in the country."

While the drive to improve road safety is a key pillar of AA Kenya's policy engagement, servicing the needs of members in a sustainable way remains at the club's core.

In a country where the vast majority of cars on the road are often aged, used imports, the club has lobbied the government to address the environmental consequences of vehicle population growth.

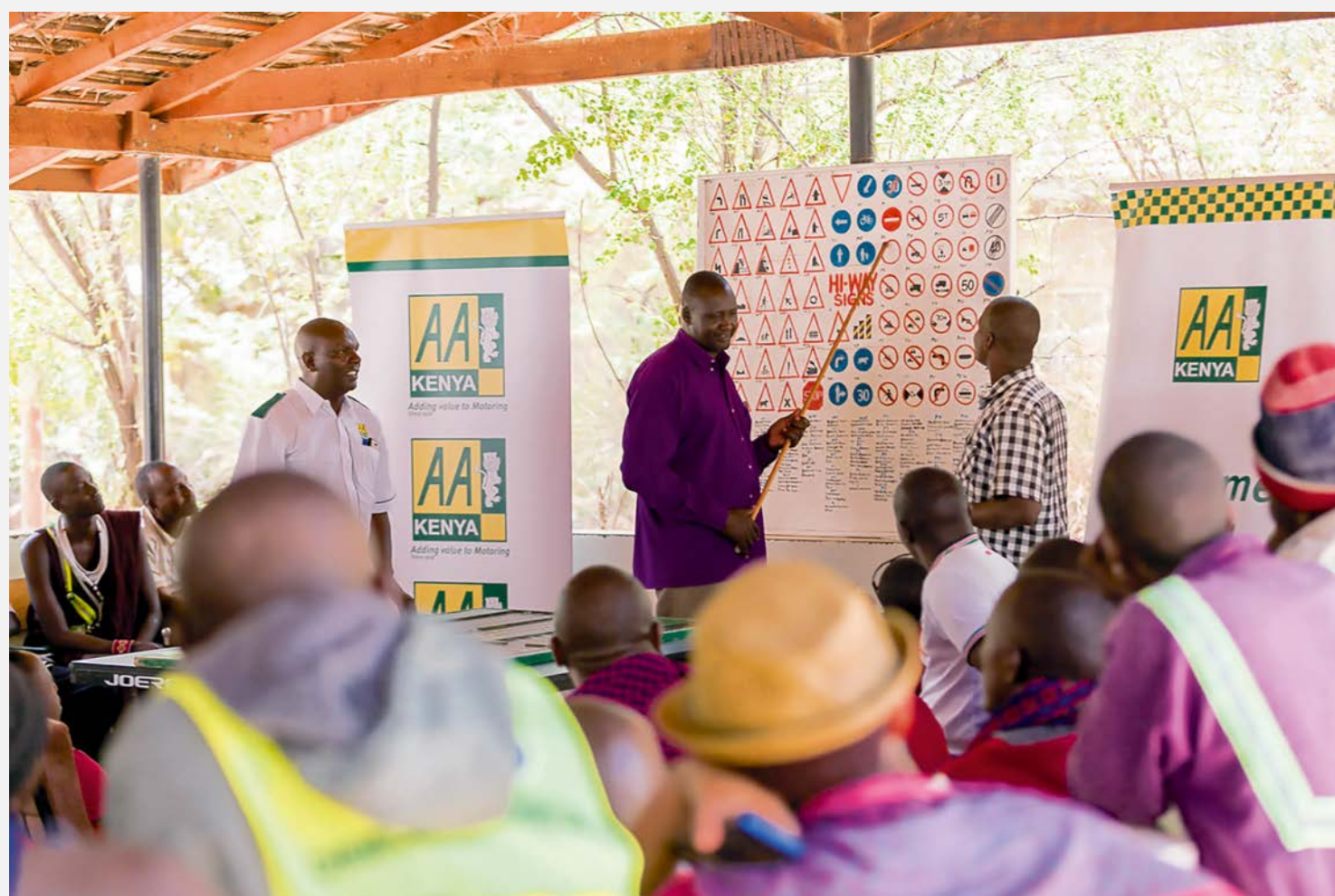
"The government is in the process of implementing a policy on the reduction of the age of second-hand imported vehicles from eight to five years," says Kibet. "In addition, the law will require that imported vehicles are inspected every five years to check for the level of emissions as well as road-worthiness."

Despite the achievements of the association, there is still room for further growth according to Kibet.

"Our Strategic Plan has prioritised membership as our reason for existence," he says. "We have set targets to grow each of our business units to scale for greater social impact.

"We believe the greatest value we can add to our members is to champion the road safety agenda in a country with a poor road safety culture. Our approach seeks to leverage technology to create value for members and drive member engagement through partnerships locally as well as globally."

The future of AA Kenya, which will be celebrating its centenary in 2019, has never looked brighter. ▶



AAK is also heavily involved in projects to help Kenya's most vulnerable road users on their way to school.



Kenya Motor Sports Federation

/
Heeding the rallying call

Everybody knows Kenya for its long-distance athletes, but the sporting event that has for many given the country a trademark of excellence is the Safari Rally, once seen as the longest, toughest and most enthralling event on the FIA World Rally Championship calendar.

Founded in 1953 to commemorate the coronation of Britain's Queen Elizabeth II, the Safari Rally lost its place as a worldwide event in 2002 for a variety of reasons, including a lack of sponsorship caused by the economic crisis of the time.

It is no wonder, then, that the dream of Kenya Motor Sports Federation (KMSF) President Phineas Kimathi – shared by the FIA and the Kenyan government – is to restore this legendary competition to its former glory and once again secure a spot on WRC calendar in the not-too-distant future. And, if you look at the latest events in which the KMSF is involved, that dream could be close to becoming a reality.

In February, FIA President Jean Todt, who also serves as the UN Secretary General's Special Envoy for Road Safety, officially opened the WRC Safari Rally Project's (WRCSRP) new headquarters in Nairobi, together with WRCSRP CEO Kimathi.

The Safari Rally Project was funded by the Kenyan government earlier this year with US\$2.5 million and the KMSF has already set up a SRP Steering Committee for the re-admission of the event to the world championship by 2020.

During talks with Kenyan President Uhuru Kenyatta, Jean Todt confirmed his determination to use the WRCSRP as a launch pad to promote road safety in Africa.

"For Kenya, Safari is both pleasure and business," explains Kimathi. "The WRC Safari Rally was once the main source of revenue and the vehicle by which the country was sold as one of the world's most beautiful and tranquil places, with the best people, wild game and geographical features." ▶



Left: Double Safari Rally winner Tommi Mäkinen on the final WRC-counting event in 2002. Right: FIA President Jean Todt at the opening of the new WRC Safari Rally Project HQ.

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'The Safari remains untamed. It's still wild, unyielding and will always be the toughest battle between man and machine'

Media coverage of rallying has helped bring the sport closer to many people, including the young.

"When a car without a muffler zooms past on any road in Kenya kids call it 'SAFO', short for a Safari competing car," says Kimathi. "Some teams have employed rallying experts and mechanics who are transforming young drivers into competitors. We see this trend growing in all areas, especially in autocross, which does not cost that much.

"Secondly, we also have various divisions including training rallies for beginners, which progress to Division II, I and finally Premium. Each is divided to include 10 or more drivers, depending on seeding points."

The responsibility of motor racing towards the community remains at the core of the KMSF's work.

"Crucially, [we need to] use motor sport to promote road safety in Kenya and Africa," says Kimathi. "Road accidents claim more than 3,000 lives annually and several thousand in the 12-29 age bracket are maimed in our country."

Kenya is a new emerging market for the motor vehicle industry with 9,000 imported second-hand cars

pouring onto the roads monthly, without an equally fast corresponding expansion of the road network; although the government has already added over 5,000km of new roads.

The East African country is ranked among those with the worst road safety record globally based on a World Health Organization (WHO) report titled 'Global Status Report on Road Safety 2015'. The fatality rate is alarming, with the 3,000-plus people who lost their lives last year also including pedestrians.

Kimathi is determined to change this trend with help from the most vibrant and visible car market on the continent through the Safari Rally.

"Young Kenyans with talent may not have cars, but we are moving to a stage where the WRC Safari Rally Project can encourage car owners to use the grounds at Kasarani for training," concludes the KMSF president.

"WRCSRP intends to develop a national rally academy where drivers are taught about rallying, defensive driving and being good drivers, with the slogan that you are the 'only sane man on the road, be your brother's gatekeeper by driving according to the highway code'."

The Safari has remained a popular event - Kenyan Karan Patel was fifth on the 2017 edition in a Mitsubishi Lancer Evo X.



...While countrymen Carl Tundo and Baldev Chager took their Mitsubishis to a one-two in March.

"This country needs the event to shore up its brand visibility and double its US\$1 billion in tourism revenue, through the WRC Promoter's platforms and domestic channels," adds Kimathi.

After organising the 2018 Safari Rally as a round of the African Championship, Kimathi, together with FIA Vice-President Surinder Thatti and WRCSRP Event Secretary Helen Shiri met with the FIA and the Managing Director of the WRC Promoter, Oliver Ciesla, to begin preparations for the Safari to be an FIA WRC candidate event in 2019.

"The 2019 WRC Safari will be real in all aspects," explains the Kenyan ASN's president.

"The roads will be 100 per cent safe on closed private land, meaning 100 per cent focus. The ride is not guaranteed to be smooth though, because the Safari, even at its current 10 per cent of the original 5000km marathon format, remains untamed. It's still wild, unyielding and will always be the toughest battle between man and machine, with no margin for error."

To achieve this ambitious objective, the KMSF is focusing on two fronts: the professionalisation of its rally officials and the improvement of equipment.

"The FIA has injected US\$160,000 for training, the upgrade of radio equipment, safety and medical parameters in re-equipping the

KMSF technically in the last 24 months," says Kimathi. "We have also contracted a Bulgarian company to provide a WRC-standard timing system, we've invested heavily in safety as well as increasing our inventory of technical equipment."

SAFARI INFLUENCE

The other objective of the federation, as its president explains, is to develop motor racing in such a way that more young people can be encouraged to participate in the sport.

"The turning point for motor sport in Kenya was 2007 when the country's largest commercial bank, KCB, injected more money into the sport and professionalism," says Kimathi. "The government also came up with support for Kenya to host the Intercontinental Rally Challenge [IRC]. This is in tandem with more disciplines being revamped, such as rallying, autocross, motocross, rally raids, endurance events, karting and the Rhino Charge [off-road competition]."

"Each of the eight rounds of the Kenya National Rally Championship have since been held in various parts of the country, starting in town centres followed by spectator stages attracting more than 10,000 fans and really taking rallying to the people."



Green machines

09

The Nürburgring Nordschleife was built almost 100 years ago but still remains the ultimate challenge for the world's leading car manufacturers

Three-time F1 World Champion Jackie Stewart famously dubbed it the 'The Green Hell' due to its incessant high-speed corners through the forests of Germany's Eifel mountains, but the Nürburgring Nordschleife remains the ultimate proving ground for today's top car manufacturers.

Five of the top 10 road car lap records have been set since May 2017 and the race to the top sees no signs of abating. The most recent attempt was from Porsche in April, which set the sixth fastest time in a 911 GT3 RS (to go with its third fastest lap set last year). Records have also toppled recently for the fastest four-door saloon (Jaguar XE) and SUV (Alfa Romeo), but

these may not last long. Lamborghini is already eyeing an assault on the SUV title with its new Urus later this year.

One record that has stood the test of time is the fastest race car around the track - set 35 years ago in a Le Mans Porsche 956C. Current top-level racers include the Sudschleife Grand Prix circuit so never have the chance to challenge that time. But that may be about to change if Porsche decides to turn up with its 919 Hybrid LMP1 car. In April it smashed Lewis Hamilton's lap record at the Spa-Francorchamps circuit as the first destination in a 'World Tour' from this now-retired LMP1 Car. The Green Hell could be its ultimate test.

FASTEST SINGLE-SEATER ROAD CAR



Formula Ford EcoBoost
Lap time: 7m22s

Nick Tandy
4th September 2012

FASTEST FOUR-DOOR SALOON



Jaguar XE SV Project 8
Lap time: 7m21.20s

Vincent Radermecker
28th November 2017

FASTEST UTE



Holden VF Ute
Lap time: 8m19.47s

Rob Trubiani
June 2013

FASTEST SUV



Alfa Romeo Stelvio Quadrifoglio
Lap time: 7m51.7s

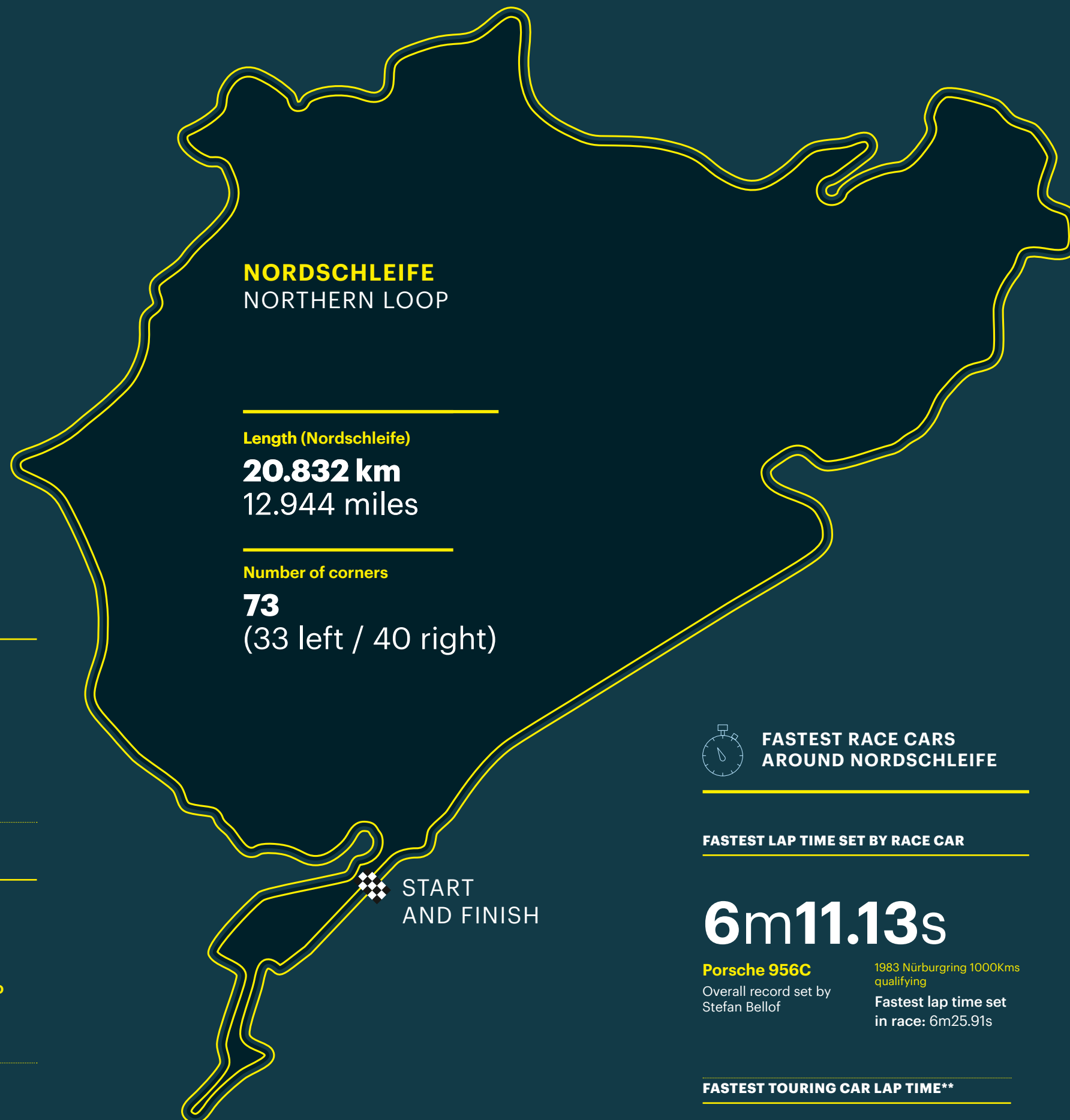
Fabio Franchia
September 2017

FASTEST FRONT-WHEEL-DRIVE CAR



Honda Civic Type R Mk.5 2017
Lap time: 7m43.8s

24 April 2017



NORDSCHLEIFE NORTHERN LOOP

Length (Nordschleife)
20.832 km
12.944 miles

Number of corners
73
(33 left / 40 right)

SÜDSCHLEIFE SOUTHERN LOOP (GRAND PRIX CIRCUIT)

FASTEST RACE CARS AROUND NORDSCHLEIFE

FASTEST LAP TIME SET BY RACE CAR

6m11.13s

Porsche 956C
Overall record set by Stefan Bellof
1983 Nürburgring 1000Kms qualifying
Fastest lap time set in race: 6m25.91s

FASTEST TOURING CAR LAP TIME**

8m34.813s

Volvo S60 Polestar TC1
Set by Nicky Catsburg during WTCC practice
26th May 2017

** Set on the full circuit with the GP layout

TOP 10 ROAD-LEGAL CAR LAP RECORDS*

01



McLaren XP1LM
Lap time: 6m43.2s
Kenny Brack
28th May 2017

02



NIO EP9
Lap time: 6m45.9s
Peter Dumbreck
14th May 2017

03



Porsche 911 GT2 RS
Lap time: 6m47.3s
Lars Kern
20th September 2017

04



Radical SR8LM
Lap time: 6m48.28s
Michael Vergers
26th August 2009

05



Lamborghini Huracan Performante
Lap time: 6m52.01s
Marco Mapelli
5th October 2016

06



Porsche 911 GT3 RS
Lap time: 6m56.4s
Kevin Estre
16th April 2018

07



Porsche 918 Spyder (Weissach Package)
Lap time: 6m57s
Marc Lieb
4th September 2013

08



Lamborghini Aventador SV
Lap time: 6m59.73s
Marco Mapelli
18th May 2015

09



Dodge Viper ACR
Lap time: 7m01.3s
Lance David Arnold
1st September 2017

10



Nissan GT-R Nismo
Lap time: 7m08.679s
Michael Krumm
30th September 2013

* All lap times set on Nordschleife (not including GP track)
McLaren XP1LM and NIO EP9 are road-legal cars, but XP1LM lap was done without number plate and the NIO EP9 lap was done on NIO-branded slick tyres
Radical lap time done in road-legal trim according to EVO magazine, which collaborated on the timing with Germany's Sport Auto



Charging forward

2016 Formula 1 champion Nico Rosberg explains why he's investing in Formula E and why he believes the world of mobility is about to enter a "sustainability revolution"

TEXT / TONY THOMAS

FINAL LAP the last word

What was the Generation Two Formula E car like to drive?

It was good fun! There was no seat fitting beforehand but I fitted perfectly, which is always good, and it really felt like a proper single-seater. I had the feeling of wanting to take it to the limit. Of course, it's slower than a Formula 1 car, but I didn't really miss the sound... It's a different world.

Why have you invested in the championship?

I've believed in it for a long time and I'm very pleased with the direction it's going in. The Berlin ePrix was the perfect opportunity to join forces and try to promote the sport a little bit in my home country, and to showcase the Gen 2 car. It's a very strong message – the first car to do the whole race distance with a

battery shows Formula E's technical evolution. There's also a worldwide movement in e-mobility. That's the future, big time. It opens so many opportunities straight away: local emissions to zero, which is the health concern; there are huge benefits there. Overall emissions, no; it's going to take some time, but there are high opportunities with renewables to do the whole chain. So it's going to be a world-changer and that's why I believe in it. We are going into a sustainability revolution in general, where mobility is going to play a big role.

What's it like stepping back into a racing series, but not as a driver?

'Racing driver', for me, is completely done. I really ticked that one off. Now it's just exciting new adventures. It's fun to be sitting next to Alejandro Agag [Formula E CEO] in a very different role all of a sudden. I've been in press conferences hundreds of times, but now I'm sitting there in a different role. It's nice to talk from different perspectives and join forces like that with Alejandro.

Will you get more involved with Formula E?

I'm quite happy with where I am at the moment. I really believe in e-mobility and in different ways I'm also an investor in other spaces around e-mobility. I would love to leave a footprint in this area.

How do you think your old team, Mercedes, will fare when they enter Formula E for Season 6 (2019-20)?

We all know Mercedes. When they do something, they do it properly, so I'm quite convinced they're going to do well. But there's Porsche, Audi and BMW as well, so it's going to be a huge battle out there.

What if Toto Wolff asked you to run the Mercedes Formula E team?

First of all, I stopped F1 – among many reasons – because of the demand it has on time: it's just such a huge commitment. And the role of a team principal, like Toto has, and the way you'd have to do it would be such a life commitment, because all the other guys are committing their lives to it. So to do well you have to do the same and not just do it as a part-time job. Right now, I don't see myself in any such role. The new freedom I have in my life – which I value a lot – freedom over my time, has been a really powerful step for me. I don't see myself going away from that any time soon. But you never know...

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