

# AUTO

INTERNATIONAL JOURNAL OF THE FIA

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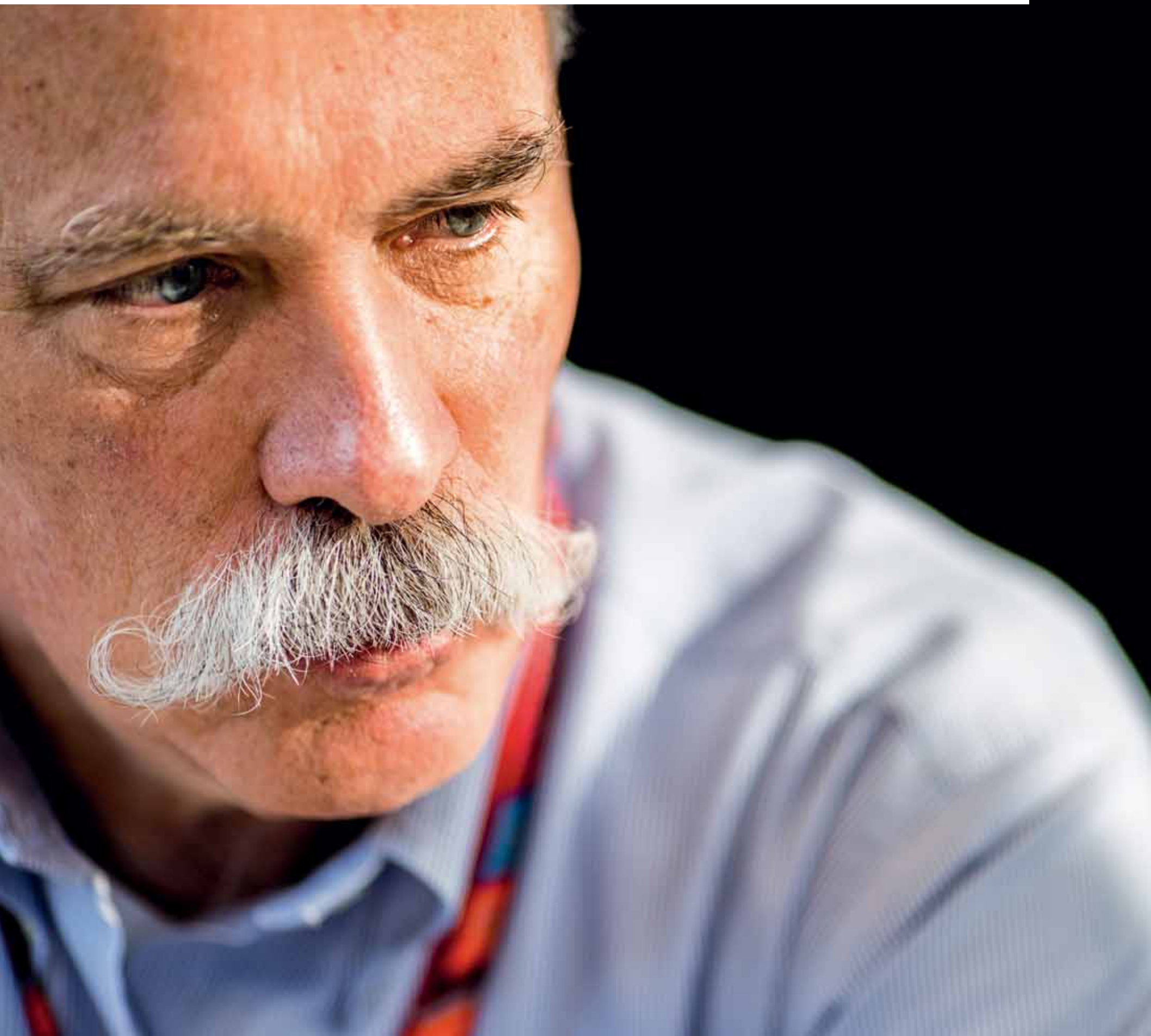
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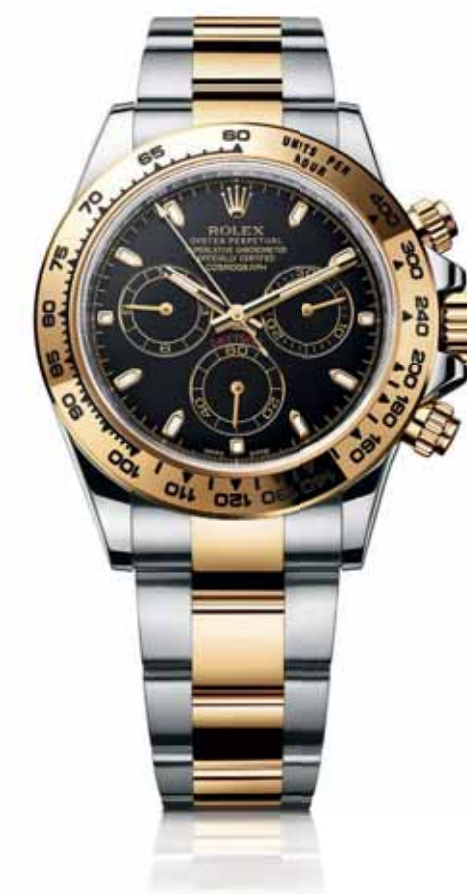






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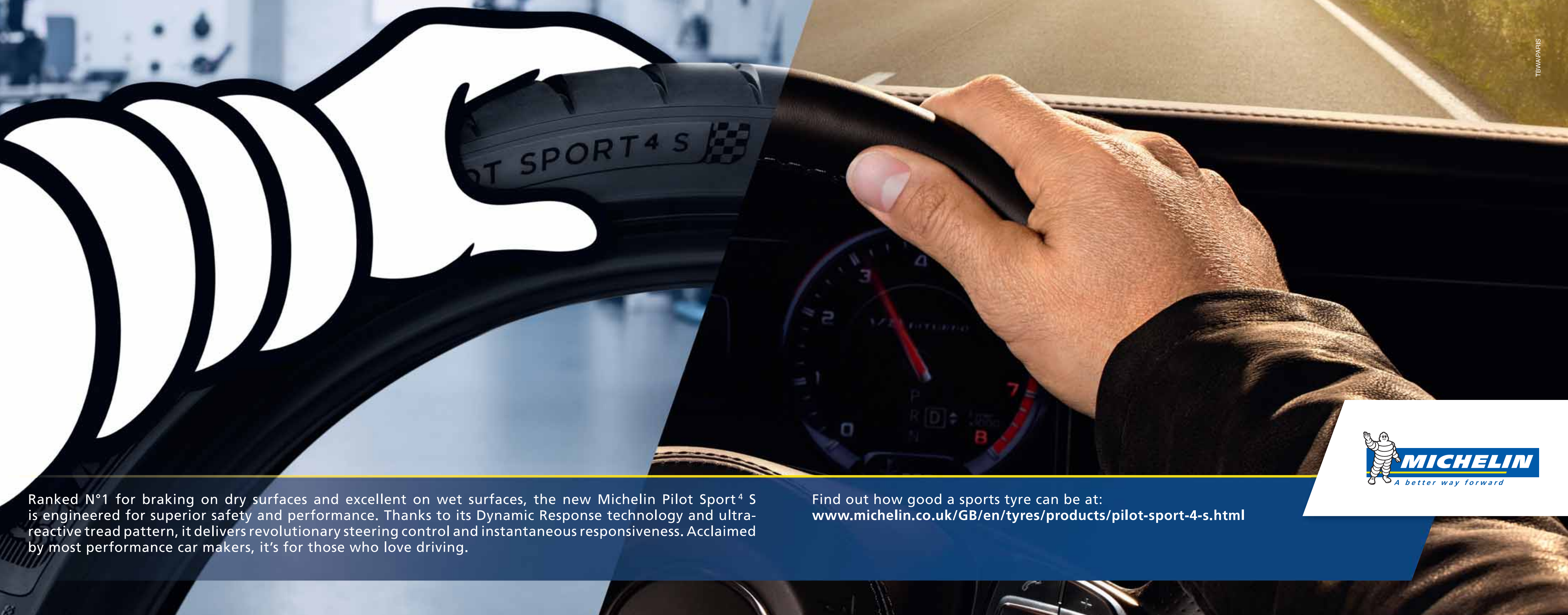
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**We would like to thank the following for their help with this issue of AUTO:** Bradley Lord, Tom Wood, Norman Howell, Joanne Revill, Alberto Antonini, Luca Pascotto, Sarah Le Port, Avi Silverman, Josep Mateu, Carmelo Sanz de Barros, Manuel Aviño  
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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,*

This year is proving to be one of great change in our world. FORMULA ONE, the pinnacle of motor sport, is tackling a particularly important season, with a new group in charge as commercial rights holder and with new cars that – so far this year – have delivered some very exciting racing. AUTO features exclusive interviews with two people who reflect this change: Formula One President and CEO *Chase Carey* and the driver who more than any other has made his mark on the sport in recent years, *Lewis Hamilton*.

Our series of exclusives with the key players in the automotive world continues in this issue, with an interview with *Carlos Tavares*, Chairman of the Managing Board of the PSA Group, recently involved in the important acquisition of the Opel marque. 2017 has seen the launch of the first advertising campaign aimed at improving road safety, produced by the FIA along with JCDecaux. Starting in this edition, you can see the photos of actual campaign billboards in some of the best-known places in major cities around the world, as well as interviews with each one of our ambassadors: in this issue we feature the Olympic sprinter *Yohan Blake*.

FORMULA E returned to the streets of Paris this year, just a few hundred metres from our headquarters. The event took place in the shadow of the monuments around Les Invalides and also marked the European debut of a new project that brings together sport and mobility, FIA Smart Cities, which you can learn all about in this magazine. With the launch of F2, the path outlined by the Federation to guide young drivers as they progress towards the top in motor sport is now complete. To learn more about the various routes that exist, AUTO met some of the people that make it happen behind the scenes: managers, talent scouts and those who head up academies, more often than not these days set up by F1 teams.

In the regular heritage section, we present two protagonists that have played a part in the history of sport on four wheels: four-times world rally champion *Tommi Mäkinen* and the *Renault Alpine A110*.

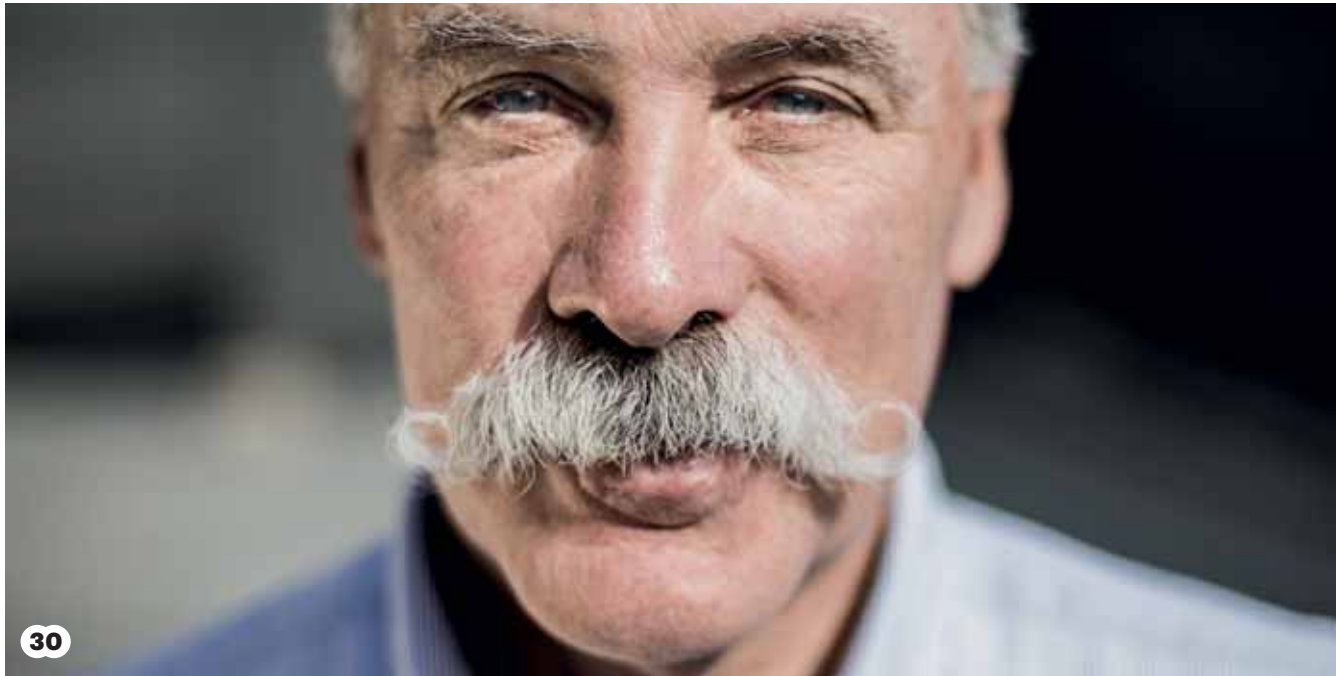
These and many other interesting features can be found in this issue. However, you will have no doubt already spotted a change to the magazine. As we had previously announced, AUTO has a new look as of today, both in terms of its format and design. Our aim was to make it bigger and easier to read. I hope you like it and you are very welcome to send in your ideas and suggestions. Enjoy the read!





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LAP RECORD

CIRCUIT  
BREAKER

On 12 May 2017, an electric vehicle recorded the fastest lap of the Nürburgring Nordschleife by a road-legal car. The NIO EP9, with top speed of 313kph, completed the 20.8km track in 6min 45sec, seven seconds quicker than a Lamborghini Huracán. The record may not have lasted long – just two weeks later it was broken by a McLaren P1 LM in 6min 43sec – but the

fact that an electric car can match its combustion-engined rivals is testament to how far their development has come. And don't bet against the NIO returning to reclaim the crown. "It is actually capable of over 1,300 horsepower and I was only running at 900," says driver Peter Dumbreck. "Once we've developed the batteries, there's even more time to be had."

NIO JOINS AUTONOMOUS RACE  
After its record-breaking performance at Germany's Nürburgring Nordschleife, NIO has announced plans to build 10 made-to-order EP9s at a price of 1.48 million USD each. It also aims to have autonomous electric vehicles in the US market by 2020.





01

# NEWS

(Below right) FIA President Jean Todt, Head of UNEP Erik Solheim, Qatar Airways Group CEO His Excellency Akbar Al Baker and Alejandro Agag, CEO Formula Holdings.

In this issue: how Formula E is helping to boost urban mobility, motor sport bosses work to avoid calendar clashes, marshals are given special thanks in the first FIA Volunteers Day, and how the Global Institute and Toyota have teamed up to provide a boost for motor sport safety

## Formula E races towards an urban future at Paris e-Prix

The third season of the FIA Formula E Championship witnessed one of its most exciting rounds in Paris in May.

Having first visited the French capital last year, the series once again put on a spectacular and thrilling show on the streets surrounding the complex of monuments known as Les Invalides in front of a crowd totalling 46,000 people over the course of the event. Victory went to Sébastien Buemi, who drove his Renault-e.dams to its fifth win from six races in the first half of the season. Argentina's José María López (DS Virgin Racing) and the German Nick Heidfeld (Mahindra Racing) completed the podium.

The event also hosted a special session of the FIA Smart Cities project involving Anne Hidalgo, Mayor of Paris and Chair of the C40 Cities Climate Leadership Group, and FIA President Jean Todt.

The occasion was marked by the announcement of a partnership between the FIA, Formula E and UNEP (United Nations Environment Programme) with the aim of fighting to improve inner-city air quality, continuing to boost the profile of alternative energy solutions and the increased uptake of electric vehicles.

Commenting on the new partnership, FIA President Todt said: "As we go racing with fully-electric vehicles in some of the greatest cities around the world we are spreading the message and this collaboration with UNEP will help us to reach even more people."

To find out more about FIA Smart Cities, see page 36.



## FIA supports UNICEF child road safety agenda

The FIA Foundation supported a UNICEF Philippines meeting in Manila in May, the main focus of which was to ensure children are safe when travelling to school.

The 'Safe journey to school' agenda, which is being advanced by the Global Initiative for Child Health and Mobility, is a key part of the Child Road Traffic Injury Prevention programme – a joint operation between UNICEF and the FIA in the East Asia Pacific Region, Latin America, the Caribbean and also South Africa.

"This is an issue where it's clear we have the solutions available to improve protection for children," said UNICEF Philippines representative Lotta Sylwander, who opened the forum.

"I'm encouraged that through the Child Road Traffic Injury Prevention programme – and through effective collaboration with our partners – lives can be saved"

Participating countries included Mongolia, Papua New Guinea, the Philippines and Vietnam. Each of these countries is looking at ways of improving responses to child road traffic injuries, with Mongolia in particular collaborating with the government to increase child pedestrian safety.

In the Philippines, the government will be mapping the risk to child pedestrians on high-speed roads, which are often in close proximity to schools with a student population regularly exceeding 5,000 pupils.

The Manila forum also allowed those present to get familiar with the new 'Save LIVES' package launched by the World Health Organisation, a 60-page guide for improving road safety.



The FIA and UNICEF are supporting a road safety programme in the Philippines aimed at protecting school children.



Some of motor sport's leading figures joined FIA President Jean Todt to discuss calendar clashes.

## Talks aimed at reducing calendar clashes

FIA President Jean Todt and FIA Secretary General for Sport Peter Bayer have met with the heads of several FIA-sanctioned motor sport series to discuss ways of avoiding calendar clashes in the future.

Formula One was represented by Managing Director of Motorsport Ross Brawn along with Global Director, Promoter and Business Relations Chloe Targett-Adams at the meeting in Monaco in May, and they were joined by FIA World Endurance Championship CEO Gerard Neveu and Formula E CEO Alejandro Agag.

Following discussions about the current calendars, the group agreed to work towards a better alignment of motor sport championship schedules in the coming seasons.

Commenting on the progress made, FIA President Todt said: "In close collaboration with its promoters, the FIA has in recent years worked hard to build and consolidate a wide variety of championships that provide great entertainment for motor sport fans.

"As such, it is important that everyone involved in our championships works towards ensuring that fans have every opportunity to enjoy them to the full.

"Today, in collaboration with our partners, we have begun the process of harmonising our sporting calendars and I look forward to continuing this effort as we define our series schedules for next season and beyond."

## Nissan Launches 'Signal Shield' to Tackle Distracted Driving

Nissan has developed a compartment in which drivers can store their mobile phones to prevent them from being a distraction on the road.

Working like a modern day Faraday Cage, the Signal Shield blocks all incoming data signals, so that call, text, and online notifications cannot distract the user whilst on the move.

The concept is built into the armrest of the Nissan Juke crossover, and once a mobile device is placed inside it creates what Nissan are calling a silent zone, effectively giving drivers the option not to receive notifications whilst on the road.

Distracted driving has become a major problem for road safety. According to a study by the RAC, the number of drivers admitting to handling their phone in the car has increased substantially, from 8 per cent in 2014 to 31 per cent in 2016.

Nissan's own research found almost one in five drivers (18 per cent) admitted to having texted behind the wheel.

A number of countries have introduced stricter penalties in 2017 for drivers caught using mobile phones behind the wheel. In the UK, for instance, a driver can now receive six penalty points and a £200 fine.

Alex Smith, Managing Director of Nissan GB believes the Signal Shield could help alleviate issues on the road. "It presents a possible solution for removing smartphone distractions while driving." He said. "Some drivers are immune to smartphone activity but for those who struggle to ignore them, this concept provides a simple solution."



Nissan's Signal Shield compartment blocks incoming data signals, so that calls and texts cannot distract drivers.



NEWS

United effort  
for Global Road  
Safety Week

The FIA and its member clubs worldwide showed their support for the UN Global Road Safety Week in May. In total, 42 clubs implemented road safety projects for the week helped by funding from the FIA Road Safety Grant Programme, which is backed by the FIA Foundation.

The theme for the week on May 8-14 was #SlowDown, which formed the basis of social media campaigns across the world. FIA President Jean Todt, who is also the UN's Special Envoy for Road Safety, said: "Speed is one of the main risk factors for road traffic fatalities. The result is devastation for the families and loved ones involved. Respect the speed limit and slow down."



Road safety campaigners: Olympic sprinter Yohan Blake with the FIA's Jean Todt, Zoleka Mandela and JAA Chairman Earl Jarrett.

Motor sport stars also pledged their support to Global Road Safety Week, including every Formula One driver at the Spanish Grand Prix and all 20 FIA Formula E drivers at the Monaco ePrix.

Another high-profile road safety event took place in Jamaica on May 10, where Prime Minister Andrew Holness was joined by Olympic sprinter Yohan Blake to support the campaign.

To mark Global Road Safety Week, the FIA released a video on speeding starring 13-time Dakar Rally winner Stéphane Peterhansel. It also worked with member clubs to encourage road users to check their vision before driving and will include in its 'Golden Rules' for road safety.

Speed contributes to around one third of all fatal collisions in high-income countries, and up to half in low- and middle-income countries. The World Health Organisation estimates that a five per cent cut in average speeds could result in a 30 per cent reduction in the number of fatal collisions.



Drivers and marshals joined together for a group photo at the World Touring Car event in Hungary.



in Hungary were invited to the pre-event press conference and marshals at the FIA World Rallycross Championship event in Belgium posed for photos with drivers. In Monaco, FIA Formula E drivers and officials came together for a special family photo.

Some drivers in the FIA European Truck Racing Championship actually began their careers as volunteers and they swapped stories with the current generation. Double ETRC champion Norbert Kiss said: "Quite often these volunteers are out of the limelight, so today is a good opportunity to celebrate everything they do."

FIA President Jean Todt said: "It's wonderful to see so many people around the world engaging with the first FIA Volunteers Day. We want to say thanks to the thousands who give their time freely so that motor sport events can happen – without them it simply wouldn't be possible."

Formula One and F2 stars celebrate the first FIA Volunteers Day at the Spanish GP near Barcelona.



Stars of the FIA World Rallycross Championship celebrate with volunteers at the Belgian WRX event.

NEWS

Motor sport volunteers  
celebrated worldwide

The first-ever FIA Volunteers Day paid thanks to and celebrated the commitment of individuals who freely give up their time as volunteers at motor sport events.

The FIA organised six events on May 12 to mark the special day over a variety of disciplines, where volunteers were rewarded for their efforts.

Marshals at the FIA Formula One and Formula Two championship races in Spain were invited for pictures with drivers and given special tours of the respective garages.

FIA World Touring Car Championship marshals

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NEWS

## Motor sport's wonder women meet in Monaco



The Formula One Paddock Club in Monaco played host to a special meeting of the FIA Women in Motor Sport Commission in May, featuring some of the stars of the sport.

Team principals Claire Williams (Williams) and Monisha Kaltenborn (Sauber) were joined by ex-F1 test driver and Dare to be Different founder Susie Wolff, plus junior racers Tatiana Calderon (GP3) and Marta Garcia (Formula 4), and FIA F2 chief steward Silvia Bellot.

Ferrari duo Lucia Pennesi (Marketing and

Sponsorship Director) and Francesca Venturi (Chassis Design Engineer) were in attendance, as were FOM Global Directors Kate Beavan (hospitality and experiences) and Chloe Targett-Adams (promoter and business relations).

Founded in 2009, the Women in Motorsport Commission has been working to improve access to motor sport for women around the world.

"We have women in competition in nearly all disciplines today: racing, rally and karting," said Commission President Michèle Mouton.

**FIA President Jean Todt joined FIA Women in Motor Sport Commission members at their meeting in Monaco on May 27.**

"We have also increased the number of women working in different areas of motor sport – team principals, engineers, officials, in marketing and design – proving that efficiency and competence are more important than gender."

FIA President Jean Todt echoed this, saying: "We see women in leadership, in management and in technical positions throughout motor sport. These women have become role models because of their ambitions and I hope that today's young girls are inspired to join this group in the future."

NEWS

## Global Institute to harness Toyota's processing power on new safety project

The Global Institute for Motor Sport Safety and Toyota Motor Corporation have launched a four-year research project using Toyota's Total Human Model for Safety (THUMS) software to further improve motor sport safety.

The joint project covers research on collisions across motor sport disciplines, and will include the analysis of safety elements such as seat structures and seatbelt positioning. The Global Institute, which is the safety research partner of the FIA, will use the results to put forward proposals to update motor sport regulations and safety equipment.

Although crash dummies are commonly used in tests, they do not allow for easy and detailed analysis of how collisions impact the brain, internal organs and other parts of the body. As a result, Toyota Central R&D Labs developed THUMS, which runs computer simulations of actual conditions during a crash and of the mechanisms of injury occurrence, including to internal organs and other parts of the body.

The simulation of the human body is made up of more than 10 million elements that accurately reproduce the human form, from precise bone strength to the structure of organs.

Global Institute General Manager, Research, Laurent Mekies said: "The processing power of THUMS is impressive and will offer new levels of data for our research. It provides a huge amount of detail about what happens to the body in a high-speed accident." ◀

**Toyota's THUMS software has been used to give a better insight to motor sport injuries, including those in sportscar racing.**





QUESTION:

# SHOULD MOTOR SPORT CONTINUE TO BE ALIGNED WITH ROAD CAR TECHNOLOGIES?

As debate begins  
over the shape of a  
number of major racing  
championships, including  
F1, AUTO asks three  
sporting insiders for their  
thoughts on technology  
versus entertainment

02

## JAMES BARCLAY TEAM DIRECTOR, JAGUAR RACING FORMULA E TEAM

Put simply, technology transfer between motor sport and road cars is really important. The level of relevance between track and road in any particular discipline is the main determining factor for how many manufacturers are involved – and how deep their involvement is. This ultimately has a huge impact on the success of the championship – it creates a better spectacle for everybody when you have manufacturers competing against each other, and for us at Jaguar it was key to entering FIA Formula E.

We have a motto for our Formula E project, which is 'Race to Innovate'. At its core this is about taking what we learn from the race track and applying it to make better cars for our consumers in the future. It's the essence of why we're racing here and even in our first year we're seeing that manifest itself. We've long said that as an industry we have an electric future and we are already seeing products being shaped by what we do here – the I-Pace concept has recently debuted in Los Angeles.

This approach is not new for Jaguar, in fact I'd say it's true to the ethos of our brand. Right back at the beginning technology transfer was central to our approach – look at the C-type, the first car to use disc brakes, that was something we developed in racing. It was proven on the track, it won the Le Mans 24 Hours, and we took that success and applied it to our road cars, which was undoubtedly a huge step forward for the automotive industry at the time.

We are committed to Formula E and it's our objective to be successful.

James Barclay

Of course the macro environment of motor sport is something we keep a close eye on, especially in those areas where future technologies are being brought into the mainstream. We're an active part of the FIA Manufacturers' Commission and we feel it is important to have an open dialogue with the FIA and other manufacturers to develop a healthy sporting future across various categories.

When we looked at returning to motor sport we looked at a lot of different categories. The defining factor with the Formula E Championship is that we see the growing significance of electrification for us as a road car manufacturer, and how useful a direct link between a motor racing series and a technology development path can be. We're also excited by the fact it's the only global platform for promoting battery electric vehicles in the centre of incredible cities. I have to pinch myself every time I come to one of the tracks – we're in places that have never experienced motor sport, and were are bringing the message of both the potential performance and the environmental benefits of battery electric vehicles. For us, it's a compelling case for why Formula E is the place for Jaguar to go racing. ◀

## TOM KRISTENSEN LE MANS LEGEND, PRESIDENT OF THE FIA DRIVERS' COMMISSION

Motor sport is a moving target, which is why it's so fascinating. It inspires a lot of passionate and brilliant people, and that keeps it at the forefront of technology. However, speaking as the son of a race car driver – I was born at a gas station – as a former race car driver and also as the person heading up the FIA's Drivers' Commission, I would say that for drivers the sporting aspect is always the most important element of what we do. All of the other things contribute – technology, circuits, engineering – but for drivers the sporting aspect is the overwhelming motivation.

That doesn't mean that we aren't fascinated by technology. Most of us work closely with engineers and that often means fine-tuning new technologies. In that sense you are connected to innovation but the human factor has to remain the deciding factor in what happens on the track.

The complexity of making cars and setting them up is fine, but when you are talking about who wins the trophies we want that element still to be in the hands of individuals. I think for people watching it's also the thing they want to see: where is the heroism? Has a driver done more than his rivals to win, has he put in maximum effort for maximum reward?

Having said that, for major manufacturers getting involved in motor sport – and the sport needs manufacturers – there has to be a technological side to the racing that is of relevance to what they do at a broader level.

I think it would also be fair to say that the easiest way for marketing people to get approval at board level for a motor sport programme would be to directly connect it to an agenda the company is pursuing in its wider business.

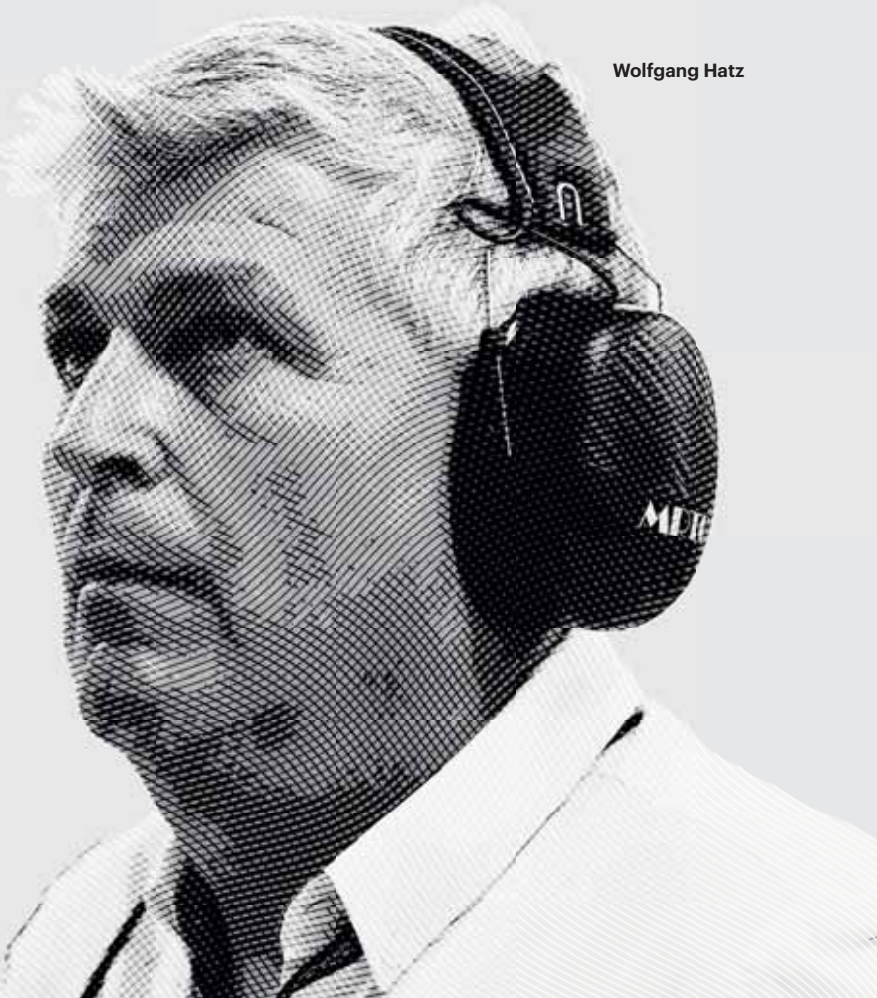
I worked with Audi in the past, and continue to do so, and road relevance is hugely important for them. In the DTM it's more a visual relevance but the connection is still there, however in endurance racing the technology developed there has been very beneficial to Audi's road cars.

Are there series that need more of a connection to road cars than others? I'd say yes. The World Endurance Championship, for example, with its four classes has the widest appeal to car makers. But rallying, which has great appeal thanks to its short races and unpredictability, probably doesn't need that crossover. It's a fine balance and you need to examine each series individually. ◀

## WOLFGANG HATZ FORMER HEAD OF R&D, PORSCHE AND FIA CONSULTANT

In racing the big advantage you get as a young engineer is that you are given a lot of responsibility, whereas in road car engineering young engineers only get a small part of the whole picture. Racing helps you to understand much better and much more quickly what a car has to do – you understand the whole car. That helps you later on the road car side.

In racing you also always have the result right in front of you. On the road car side it's a bit more difficult to compare. So, the opportunity to learn broadly and learn quickly in motor racing is a real bonus for manufacturers.



Wolfgang Hatz

What I appreciated at Porsche when we built up the team for the 919 Hybrid programme was that I was able to use some people from other areas of the company. For example, with the hybrid system we chose people from the 918 production car programme because they had good knowledge of those systems and we transferred that to 919, and now their experience there is feeding back to other road cars.

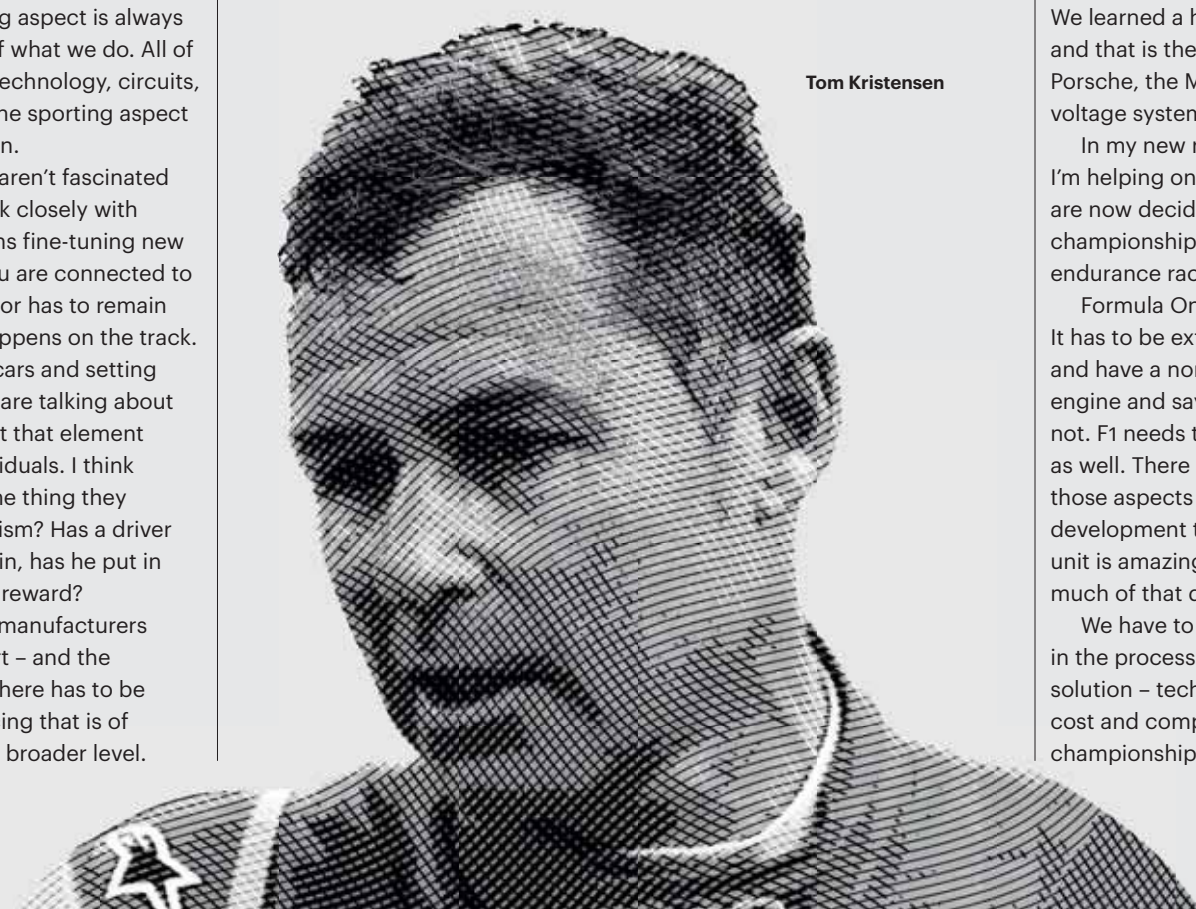
On the 919 Hybrid we have a 900-volt system. We learned a huge amount from that system and that is the reason why the first pure electric Porsche, the Mission E, will also feature a high-voltage system.

In my new role as a consultant to the FIA, I'm helping on new technologies because we are now deciding new regulations for many championships, including Formula One, endurance racing, even Formula E.

Formula One always has to be a challenge. It has to be extreme, but you cannot go back and have a normally aspirated, 20,000rpm engine and say that's the future as it clearly is not. F1 needs to be the pinnacle of technology as well. There is already broad agreement on those aspects among all the stakeholders. The development they have done in F1 with the power unit is amazing, but now we have to say 'how much of that do we need?'

We have to find a way that all the partners in the process can be happy with the solution – technology, show, excitement, cost and competition. That is the same for all championships I think. ◀

Tom Kristensen









# Pressing the accelerator

04

Car manufacturers are embracing the world of start-ups to speed up the development of automotive tech and stay ahead of the game

TEXT  
/  
MARC CUTLER

If you think that cars are just for driving you may have to change your perspective. The new generations of cars can park themselves, tell us the weather and even warn us if we're unfit to drive.

Putting the intelligence into a car doesn't just 'disrupt the market', it changes the way they are assembled. It calls for a whole new – and extremely rare – skill set. Which is why traditional car makers like Daimler, BMW and Jaguar Land Rover are looking beyond the production line and into the burgeoning industry of automotive start-ups.

Jaguar Land Rover has 28 staff working on applications alone and 400 on infotainment systems. It has even launched its own accelerator programme, called InMotion, with the aim of nurturing new creativity in the mobility and transport sector. This rolling six-month programme is currently funding up to 15 start-ups.

Meanwhile, BMW's iVentures accelerator programme has funded 16 start-ups from three continents and mentors them from its offices in

New York, Munich and Silicon Valley.

But can car makers, with their five-year product life cycles and old-fashioned, linear development processes, match the blistering pace of the start-up world?

Sebastian Peck, MD of InMotion, and Saeed Amidi, founder of Plug and Play, certainly believe that the time is ripe to do so. Each aims to create the perfect mix of ingredients (human invention, financial know-how, open IT platforms) that can propel the car industry to move at software development speed.

"We're very different to the core business," says Peck at InMotion. "What we're doing is mainly software and it's a very different cycle. We start small, iterate our way towards a product market fit and make sure we're very capital efficient."

## PLAY TIME

Plug and Play is no stranger to the start-up scene but recently turned its attention to the automotive world after launching a joint venture with Mercedes, Volkswagen and Porsche. Every year it reviews 5,000 start-ups across the range of industries going through disruption. It then invests in more than 160 and runs industry-specific accelerator programmes in order to hot house them. ▶

Car makers and start-ups are combining to bring new software to today's vehicles.



"We aim to bring together start-ups with large organisations like Mercedes"







# ‘Same game, new attitude’

Meet the new F1 CEO, *Chase Carey*, who believes that Formula One still has plenty of room to grow, wants to collaborate with the FIA to promote motor sport globally and build a pathway for the F1 greats of the future

05

PHOTOGRAPHY

/  
VLADIMIR RYS

TEXT

/  
JAMES ALLEN

**C**hase Carey has been CEO of Formula One since January, when Liberty Media completed its takeover of the company that owns the commercial rights to the FIA Formula One World Championship.

Contending that the days of the ‘one-man show’ in F1 are over, he formed a management team together with Sean Bratches, Managing Director, Commercial and former F1 team owner Ross Brawn, Managing Director, Motorsports and between them they are building for the future.

It’s fair to say that things are moving pretty quickly. One early deal was the changeover from GP2 to FIA Formula 2, thereby completing the pathway from F4 to F1. The new team has opened up some freedoms to drivers and teams in F1 to use social media, and a major research exercise is going on to assess the impact of this as well as identify what works and what doesn’t in order to best shape the F1 of the future and its commercial opportunities.

Carey, 62, comes to Formula One after a long and distinguished career in senior management at 21<sup>st</sup> Century Fox, including a stint as President and Chief Operating Officer of NewsCorp. He fronted the Liberty Media takeover of F1 along with Liberty CEO Greg Maffei. ▶





“We want to take a great sport and bring some fresh energy but with respect for the history”

Carey has come into F1 because the investors he represents see an opportunity to grow the sport from where it is today, so what are the key indicators that make him believe he can do that?

“I think in many ways just looking at what was not being done to really maximise the value and opportunity in the sport over recent years,” he says. “When you don’t have a marketing organisation, you don’t have a research organisation, when you don’t have a digital organisation, meaningfully you have a one-man sponsorship crew. I think it speaks to the resources that are not being deployed to maximising growth in the sport.

“In today’s age you need to be able to use all the tools you have available to grow; like digital platforms and social media, they could probably become the strongest driving force in growing a sport and to some degree it’s improving now. If you look at the growth in video platforms, video digital platforms just in the last few months, it’s a three- to four-fold growth in one year by just giving it some energy and opening it up. So I think there’s a real pent-up appetite to engage with Formula One in a much deeper way.”

Carey and Liberty Media see the opportunity and the means to grow F1, but it’s important to recognise that it starts at a very high level already in terms of global reach and the quality of its audience. These factors make it quite unique as a global sporting property.

“Well, those are some of the characteristics that made it uniquely attractive for Liberty, for us to come into the business,” says Carey. “We think events, particularly global events, are disproportionately going to grow in value and importance and F1 is unique. Probably with the Olympics and World Cup which are once every four years it’s a sport that connects with hundreds of millions of fans around the world and it does it with a sport that captures their imagination.

“One of the things that makes sport so

interesting to fans and everybody else is it’s tremendously emotional,” he adds. “People get really connected to it so when you have that passion and that sort of defining competition I think it begs to have a structure that helps make it a business which can be managed, while respecting what it should be as a competition.”

#### OLD AND NEW

One senses with the new owners that the history of Formula One, its iconic venues and teams and its rich tales of triumph and tragedy, are a huge part of the appeal. Perhaps this is partly because they are American, and Americans tend to appreciate history more than Europeans, who often take it for granted.

F1 has many valuable and historic properties with strong traditions; teams like Ferrari, McLaren, Williams and Mercedes and on the race venue side you have Monaco, Monza etc...

“Tremendously important; I think the history is one of the most important assets to have,” says Carey emphatically. “You want fathers and grandfathers and sons to grow up through it and remember experiences, and I think the drivers, the teams, the races, the tracks are an incredible part of what makes this sport special and really distinguishes it from other sports out there today.

“When I was at Fox and we first got in business with the NFL we had a slogan: ‘Same game, new attitude’, and I think it applies here. We want to respect the traditions that made this sport great and build on those. We’re not looking to gimmick it up, we want to take what is a great sport and bring some fresh energy and innovation but with complete respect and admiration for the history that is an incredibly important part of F1.”

This inevitably triggers the next question, whether Carey and Liberty will put emphasis on trying to maintain some of the ‘classic’ events in the F1 calendar that seem to have been under perpetual threat in the past decade, with depressing headlines suggesting GPs at Monza or Silverstone are “on the brink”. Will Carey be aiming to ensure that those races are properly sustainable and part of the ongoing fabric of F1?

“Very much so,” he replies. “We have great events around the world, but the foundation of this sport is Western Europe, which is largely where the tracks you’re talking about exist. That’s tremendously important and what we want to do is to build, but very much recognise that the foundation is critically important. So not grow at the expense of the foundation, but I think your foundation needs to be strong and continue to make it stronger and then we can add the dimension of further growth. But those historic events are an incredibly important part.”

“One of the accusations thrown at me is that I’m going to ‘Americanise’ Formula One and I say ‘clearly not’. It goes back to what I talked about: the history and the foundation. We respect that. I moved to London to do it, I didn’t say ‘Lets run it out of New York’. So I think we recognise the truth, the traditions.



Carey, with FIA President Jean Todt and his partner Michelle Yeoh, at this year’s Spanish GP. Carey says relations between motor sport’s governing body and F1’s new management team are healthy.

vision of where we want to go and we have a very good working relationship. We speak fairly regularly and are really looking to figure out how we can build some momentum into that relationship that will facilitate having more of an organisation of people with responsibilities who can communicate with their counterparts. It’s not just me and Jean Todt – I want people who have the responsibility and authority to make decisions and can engage with their counterparts and try to do things that will help grow the sport.”

“Formula One is the ultimate race for us and I think as part of making F1 great you want to ensure you’re doing what you can to provide the right training ground and opportunities for the next great drivers to learn and emerge and come through... Not just sit here at Formula One [level] and wait to see who pops out, but play a role and help develop the sport and the drivers.

“The drivers are our stars. Talent will ultimately win out. Obviously the teams, the brands and the other things are important, but the drivers are our stars and we’ve got to make sure we’re doing everything we can to find the drivers of tomorrow. I want to work with the FIA to make sure we’re doing what we can to provide the right development paths.”

Carey sees Formula One as the pinnacle of motor sport and plans to build it into an even more successful business than it already is, thanks to harnessing the power of new media and communication tools. But he’s seen enough of the sport already to know that it has a certain responsibility as the most prominent motor sport category to pull people in and encourage them to explore other disciplines and categories.

“One of the things I’ve found as I’ve gone around some of the tracks is that there was [with the previous management] a bit of trying to exclude other forms of racing from our events. To some degree I want to invite them. We want [F1] to be the pinnacle, but if there are things we can put on that interest fans, that’s why we’re doing this.

“We’re doing this not for our purposes and not for the teams but for the fans and to create a great experience for them. If the fans enjoy other forms of motor sport, if in Australia they want the V8 Supercars, I don’t want to preclude that. I should take advantage of that and get the Supercar fan there who hopefully becomes a more passionate F1 fan, and that’s good for everybody.”

Formula One has had a love-hate relationship with the United States, struggling for a permanent foothold since the days of the Long Beach Grand Prix 30 years ago, although Austin has been a success and Carey sees it having a strong future. ▶

Carey is an admirer of F1’s past, so probably had plenty to talk about with triple champion and Mercedes non-executive chairman Niki Lauda.



“We’ve had a number of constructive meetings with the FIA. I think we have a shared vision of where we want to go and we have a very good working relationship”



He says he'd like to add another race in what he calls a 'destination city', somewhere like New York, Miami, Las Vegas – the idea being not to take away from Austin's audience and appeal, but to put another race in that North American time zone, to provide a beachhead to grow the sport in that part of the world and more value for rights holders in the world's largest market place.

One of Carey's first hirings after taking office was Matthew Roberts, a former ESPN executive, as head of research – one of many roles being created within Formula One Group that had not existed before. Carey believes that there is a large latent following for F1 in the USA, established over many years of broadcasts and the peripatetic race hosting in the country over the last two decades. It's a question of finding the best ways to engage them.

"One of the encouraging things in the US is you can track the followers we're gaining digitally," he says. "When we start to get the research we can track it. The sport is not going to be the NFL, so we're not deluding ourselves, but I think there's a much bigger fan base that is untapped. And to some degree because we've done nothing to try and connect and engage those fans, I think there is a much bigger base than people realise."

There are some major threats, of course. Among them no doubt in the future will be the threat to the foundations of motor sport from autonomous cars; if the public of the future no longer thinks about driving a car, and in a world where fossil fuel cars are no longer permitted in some countries and the car becomes solely a mode of passenger transport, will they care about the idea of a competition to find the best drivers?

Traditionalists say that it's like equestrian events, which are still hugely popular even though a century has passed since the horse was the primary mode of transport for most people. Others, including futurologists, are not so sure.

“The sport is not going to be the NFL, so we’re not deluding ourselves, but I think there’s a much bigger fan base that’s untapped”

Is all of this too far ahead for Carey to consider it a threat to his business?

"I think the answer goes back to 'it's a sport'," he says. "And it's a sport with great contests that captivates with the combination of power, athletics, skill and technology to keep maximising the sport and puts it on a different path. Where's the car world going; [the car] that you're driving? It's not going to be a reflection of the path that we have to follow.

"I don't really call it a threat, I think it's the world we live in and we've got to figure out how we define our place in the world. But it's certainly going to be with great drivers driving incredible machines with hopefully great competition."

But short term the most difficult immediate challenge for Carey's administration, together with the F1 teams and the FIA, will be deciding how to balance entertainment and technology. Many fans feel F1 has become too complex in its technology and regulations. With his priority

being fan-friendliness, will Carey insist that entertainment is given clear priority?

This is a delicate area, one that Ross Brawn and his team of F1 technical experts are devoting time and resources to on the F1 Group side in collaboration with the FIA technical department.

The decision to move F1 onto hybrid turbo engines in 2014 aligned the sport with the automotive industry, but not all fans are happy and the next steps for that industry will diverge significantly from the interests of motor sport, especially when you start to talk about autonomous cars.

F1 is synonymous with cutting-edge technology, but its strongest appeal lays in the human factors, the drivers as stars, as Carey keeps repeating. So there is a big decision to be made on where the balance lies between entertainment and technology. Should it be a heroic driver taming a monster of a car with a loud engine, doing things with it that none of us could dream of? Many fans would say yes. Or is the emphasis on the 'track to road' story for the manufacturers and fuel suppliers?

Carey picks his words carefully, but it's clear that entertainment, built around superstar drivers, is his priority.

"I think they're both part of what makes the sport special," he says. "It's a competition on one hand, but the technology and engineering are obviously a part of what creates the mystique and interest in F1 and there are certain people who are passionate about that.

"But between the two I think clearly the sporting aspect needs to be the driving force. Our drivers are our biggest stars, we want to put on events that are great with exciting competition and great action. We want the drivers to ultimately be the shining lights, not to be a sport driven by engineers, but a sport where the engineers are adding value."

And how loud will the engines need to be? "We'd like them to be a little louder. We're working on it," he smiles. ◀



Carey sees a strong future for the Austin GP, but would like to add another US race to the Formula One calendar in a 'destination city'.







# CITIES IN MOTION

06

With the world on a pathway towards increasing urbanisation, ensuring that mobility systems of the future are efficient, clean and integrated poses a major challenge. Through its new Smart Cities initiative, the FIA is helping to find solutions

The future of urban mobility is at a tipping point with technological innovation, changing demographics, sustainability needs and evolving consumer attitudes and preferences all placing challenges in the path of those involved in designing urban mobility solutions for citizens and business.

City authorities are being confronted with issues such as congestion, air quality, road safety, use and availability of data, and transparent consumer information – but are committed to implementing long-term sustainable policies.

The FIA is contributing to this process through its long experience in transport and mobility, together with the expertise gained in motor sport: on one side, the FIA as regulator of motor sport promotes cooperation between industry players (car manufacturers, suppliers and IT companies) to ensure solutions deployed on the track are safe, standardised and efficient; on the other, the FIA and its member clubs are involved on a daily basis in promoting mobility solutions that are affordable, practical and flexible enough to respond to their different needs.

The combination of these two backgrounds creates a unique framework to test new approaches to mobility in cities. Cities, after all, play a key role in achieving sustainability targets, considering urban settlements are growing and attracting new populations.

According to the World Economic Forum, by 2025 the 15 most populated by mega-cities will register a significant increase in the number of citizens: New York will reach 24 million people (+20 per cent), Shanghai 28m (+40 per cent) and New Delhi 33m (+43 per cent).

Two major observations recur in the debate on the future of cities: innovation and sustainability. Cities have started using data to improve operations, but big changes are already underway in future-focused cities. Just as individuals have embraced wearable technologies to monitor health, physical performance and daily habits, so cities are

turning to sensors to track the vital signs of the urban landscape.

Through this ‘Internet of Things’, sensor-equipped water pipes can identify leaks, electric meters can track power use, parking meters can automatically flag violations or tell drivers where to park their car, street lights can adjust to traffic flows and smart grids can manage energy supply in a more efficient way, including to a fleet of electric vehicles.

As a catch-all, this activity has become known as Smart Cities and more and more metropolises are taking a strategic approach to getting smart.

## THE DECISION MAKERS

The concept of Smart Cities has become one of the most rapidly growing frameworks applied in all sectors of urban development, including transport and mobility systems. Smart Cities symbolise urban areas that flourish, that connect with their dwellers and that comply with the highest safety standards.

Engineering consultancy Arup defines the smart city as one where “the seams and structures of the various urban systems are made clear, simple, responsive and even malleable” through technology and design.

Innovation doesn’t refer only to technologies, products of services, but also affects policies. City planners need to rethink what infrastructure they require and how they function as a whole; how the amount of data generated by sensors and vehicles can be integrated, protected from hacking, reused for ensuring better service to citizens and opportunities for private initiatives to further generate services.

Ultimately, in order to keep up with this change, planners must make important decisions in regards to mobility and the way this will be ensured, regulated and designed.

This consideration then leads us to the second element of the urban debate – how to increase sustainability. ▶















# EMPOWERED TO COMPETE

Triple FORMULA ONE CHAMPION *Lewis Hamilton* on motivation, inspiration, the joy of battling Ferrari, and why racing your team-mate is a “vortex of tension that just gets stronger and stronger”

05

TEXT  
/  
JUSTIN HYNES

When you were young what were the things that inspired you about motor racing – speed, control, freedom, competition?

“I don’t really feel that I was inspired to drive. I loved cars, as all kids do; model cars, anything with a steering wheel. I loved motorbikes; I loved anything with an engine in it. Then when I was five years old, I went on holiday, there were these Formula One bumper cars. Shaped like a Formula One car, but it was a three-wheeled bumper car basically and my parents couldn’t get me off it. I just loved driving it. I loved watching my dad drive. I just loved the feeling of it and then once I did it and I could do it, I wanted to do it more. It’s difficult to say, I don’t feel like I was inspired, I was just... Maybe it’s fascination.

“For me, it’s the same thing as you say to someone who goes to Disneyland – what’s inspired you to go on the ride? You’re not inspired to go on the ride, you only want to go on it because it looks like it’s fun, and that’s what it is. It’s exactly the same as anyone going to the theme park. I love driving a car because it’s a rollercoaster ride of my own, and depending on how far I want to take it that determines how much fun the rollercoaster ride is.”

You’ve spoken a lot about later being influenced by Ayrton Senna, but were there other people you admired? Other examples you wanted to follow and other people who made you think there’s a lesson to learn there, something about their approach to sport or process or discipline?

“As a kid I did watch others, probably because my dad was watching them. Muhammad Ali, for example. Being a black family it was not necessarily always easy for us. There were no black Formula One families on TV for us to really relate to! I felt like I could relate to Ayrton. So it was great to be able to see other individuals from a similar background, and particularly ethnicity, doing great things elsewhere. Seeing how they do it, and how they faced up to the difficulties and challenges they go through.”▶





**In football, boxing, athletics?**

“It wasn’t in football; it was in boxing. Lennox Lewis, Frank Bruno, I used to watch them a lot, those sports stars. Then watching the Williams sisters come up, watching Tiger [Woods] come up, they were the ones, definitely. “I saw what Tiger was doing and I was like, ‘one day I want to be like that in my world, in racing’. I’d look at the Williams sisters breaking through and think, ‘I pray and hope that one day I can be great like they have been because they have broken down barriers’. For example, I play golf now because of Tiger. Well, actually I’ve quit because I suck! But I took it up because of Tiger and I started playing tennis because of the Williams sisters, it’s just how it goes. You get someone from India coming along and doing great things in their sport and it inspires others. They have an Indian cricket team, the whole country loves cricket. It’s how it goes with all nations and all ethnicities.”

**The path you took from a kid who goes on a theme park ride to one that gets in a go-kart and starts competing. That’s a tough route for any driver. Does that come at the expense of what you might call a regular childhood?**

“Yeah, I think that’s the name of the game for all us kids who raced. You leave home on the Wednesday or the Thursday sometimes to get [to a track] and practice on Friday, Saturday and Sunday, and you miss days off school. You miss weekends where you’re friends are going to an arcade, or bowling, or sleepovers, group activities. You miss that social connectivity. “So when you go back to school on a Monday you walk up to a group and they’re all talking about this amazing weekend they’ve had and you can’t be a part of it. They’re like, you weren’t there, and I used to have that all the time. So to build those bridges was very, very hard, it was like rebuilding it every bloody week. So yeah, lots of sacrifices with that.”

**Are there elements of junior racing that made you grow up too quickly because you’re in what is predominantly a world of adults?**

“I used to think that was the case, but now I don’t think so. I think if anything it hindered me in my growth, massively. I got to Formula One and I feel like I was hugely immature. I know young 17-year-olds now who are so mature, so much further along than I was at 22 and looking back on it now I think it hindered me. “It didn’t allow me to blossom as a growing being. It just didn’t allow me to blossom into who I was and it took me longer... I was cocooned for longer, which is surprising. You’d think being around adults it would help you actually grow up. But you miss that [teenage] gap: you take a leap from being a kid to having to be an adult and you miss all the foundation in between. So you get there; you can act like an adult but you’re not really an adult, and that’s how it was basically for me.”

**Over the past five years, just from an outsider’s point of view, you appear to have grown an awful lot, though. Would you agree with that?**

“Yeah, and that’s me blooming late. Probably, if I hadn’t been racing, I would have matured way earlier. I would say for parents pushing their kids into football and soccer and sacrificing all their other stuff, they’ve got to find a real balance I think. Parents are just so forceful. It’s all sport, because we want to be a star, and I think it’s important to make sure that they maintain some of their [kid’s] childhood because you can’t live it again. Once it’s gone, it’s gone.”

**If you look at your experience, including all those things you’ve just talked about, and because you’re a person who does this quite a lot with social media, what is it about your experience that motivates you to give inspiration to others?**

“I feel odd saying, ‘I’m going to say this because I’m going to inspire you to do that’. But perhaps hopefully in good actions that I do... I do notice that kids or people message me all the time to say, ‘you’ve been out training today [and that inspired me] or you wishing me a good morning has just really lifted my day’ or something like that. So inspiration comes in lots of different shapes and forms. “The fact is that being in my position I have a great power to be able to, with the click of a button, positively affect someone’s day or their week or whatever. What it really comes from for me is growing up in Stevenage, on Peartree Way. I wanted to be a racing driver. I had no comprehension that in 20 years’ time people were going to be following me to races around the world, saving up their money and flying out, buying the tops and flags and getting to the tracks. All the 19 other cars [are there, but] there’s only mine; the energy they have is going to my car, for me. I never ever thought that that would be the case, and there’s not a lot of opportunity always to give acknowledgement to them for that, so social media is a real way of just trying to bridge a gap with them. “Like recently I did a live chat with people and in it I’m at home. I showed them a little bit of my world. I’m at home, I’m about to go and do this, normal things, but it’s a way of connecting.”

**Is that fun for you? You say it’s not your intention to inspire people; it’s just you being you, right?**

“I don’t mean that it’s not my intention to inspire people. I just don’t wake up in the morning and think right, I’m going to inspire a thousand people. But I love connecting with them because I think the energy I get from them is just incredible. I see kids coming up, kids who obviously want to race and be a racing driver like me and of course when I see a kid I’m like ‘work hard at school, man’. ▶

Hamilton’s had plenty of chance to spray the bubbly in F1 this season, but he’s got a fight on his hands thanks to the rise of Ferrari.





“Adults are different. I’m talking to an adult on the same level, they’re the same age as me, or maybe older than me, and when people say ‘you’re my idol’ when I’m younger than them, that’s strange.  
“But for a kid it’s different because I remember what it’s like to be down there looking up at the giants in the world. I remember being talked down to by other adults who would say that you’re not going to amount to anything, and I refused to... There may be one of those kids who has heard that before and I want to change that in their head, in their mind. So, if there are 10 people who have said something negative, maybe my one positive comment can erase those.”

At the end of 2015, you said: “What’s important is a peaceful life, not to have too much ballast and no stress.” Have you reached that point yet?

“I think life’s journey, if it was easy and completely peaceful the whole way through, would be boring. I think rough seas make it exciting every now and then. So I would say my life is more like the ocean, where you wake up in the morning and it’s calm, and then just depending on the wind you get swells, and if it’s raining it gets rougher. In general, though, it’s pretty good.  
“It’s just about trying to find balances and not taking things too seriously or not dwelling on too many things. It’s incredible how powerful the mind is, you can accomplish almost anything with your mind. It’s convincing yourself and just unlocking that mechanism in your head in order to do it.  
“But yeah, I’m definitely in a very good place and I think I’ll continue to grow in the next five years. In five years’ time I envisage the same step as the last five years in growth.”

Going back to the joy of driving a racing car and what you were saying about it being a rollercoaster ride, is that something you’re experiencing with this year’s cars?

“This car, for me, gives me the same feeling as last year’s. All they’ve done is make them a little bit faster, but fundamentally it’s the same car as it was last year for me. They’ve really not changed. All it’s done is taken a step up in speed. The characteristics of the car, the way it moves to the corners is the same, just a little bit faster. It’s the same rollercoaster ride just turned up two notches, but not so much that it’s like there’s a new turn in it.”

So your enjoyment this season is predicated only by the level of competition?

“Yeah, right now it’s solely on competition. It feels the same car as last year [but now] we’re just having a competition. If we’re able to qualify the top 10 within half a second or something like that, now that’s a fri\*\*in’ race. Maybe top five within a few tenths of a second, that’s racing man, because then every millimetre, every metre of braking counts... Everything counts even more than before, and right now it’s even more the case than before.  
“It’s also easier battling another team. There’s a whole mental shift, the whole team’s dynamic shifts in a powerful way. When [the competition] is all within a team it’s just like a big vortex, and depending on the tension it gets stronger and stronger and is actually not really what a team is built to be.  
“Now having another team [to fight] we are pulling together with that same drive – it’s just so much more powerful, it’s really awesome.”



Hamilton feels his 2017 Mercedes is fundamentally the same car as last year, just “a little bit faster”.

When the time comes and you have to stop doing this, when you decide to stop doing this, what would you like you legacy to be in Formula One?

“I don’t really think too much about it to be honest. I think you could probably get caught up in what you want your legacy to be. I can’t envisage what it’s going to be.  
“The only thing I can think of in the racing world is that I want to be known as a hard, out-and-out but fair racer. Ayrton Senna – the way he’s remembered today I hope that I’m remembered in a similar light. Since I started racing that was always my goal, to do something similar to Ayrton, to emulate him. I hope when I’m gone people can respect my commitment, my ability and my drive the way they respected his.”

The fact that you can’t think about your legacy suggests that you’re not close to backing away from the sport?

“My destiny is in my own hands. I can decide to stop at the end of this year. Does that mean my legacy is less great than it would be if I stop in five years’ time? Who’s to say? I don’t like to plan for it because I don’t know what’s around the corner, I don’t know what I’m going to do. Whatever I know I’m going to do, if I apply myself the way I’ve always applied myself in my racing and I apply it to anything else I want to do in life, or even if it’s still in racing, I feel I can achieve great things.  
“I’m never going to stop pushing the limits of whatever it is I do with myself and I’m always going to strive for greatness in whatever world it is that I’m in. So I think that mission or that mentality will create my legacy.” ◀

“I want to be known as a hard, out-and-out but fair racer. Ayrton Senna – the way he’s remembered today I hope I’m remembered in a similar light”



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# PATHS / TO / GLORY

Many a young driver has struggled to plot the right route to a top seat in motor sport, but with the completion of the FIA’s racing ladder that job just got easier. AUTO speaks to the people guiding the careers of the next generation of superstars to find out why

The done thing when receiving an award is to recognise the people who helped you along the way. Speaking at the FIA press conference after being crowned 2016 Formula One World Champion, Nico Rosberg cheerfully thanked his family and the Mercedes team for their unstinting support. And then, being one of motor sport’s more thoughtful individuals, he proceeded to talk about the other people who had helped him over the years: team bosses and engineers from his formative seasons in karting, Formula BMW, F3 and GP2. Rosberg’s comprehensive list brought home how much of an individual’s success is down to a collaborative effort spread over a long time.

The current F1 field have all gone through a similar initiation to Rosberg, rising through the ranks of various feeder series before reaching the pinnacle of single-seater racing, usually with the aid of a guiding hand, plotting a route through myriad competing formulae, picking the right time to take a step up.

Today, that process is being simplified. Those who inherit the F1 seats vacated by Rosberg and his contemporaries will accumulate points to gain a superlicence and, most importantly, will graduate through a junior programme that is now linear as the FIA’s Global Pathway philosophy consolidates those feeder series into a standardised pyramid.

Frédéric Vasseur and Nicolas Todt, co-owners of the ART Grand Prix team, were among those publicly thanked by Rosberg in Abu Dhabi. Over 12 years of competition in GP2, 10 ART alumni including Rosberg (and a handful more from other series) have made the step up to Formula One.

Todt says owning an F2 team has provided useful synergies with his other job as a driver manager, enabling him to attract talent with the promise of a seat in a winning junior team. Over the years he has guided the careers of many young stars such as the late Jules Bianchi and current F2 ace Charles Leclerc. The process of nurturing a career, he says, starts at an early age. ▶

06

TEXT  
/  
MATT YOUSON

Prema races in all four junior FIA categories, including the FIA F3 European Championship with 18-year-old Chinese driver Guanyu Zhou.







Stoffel Vandoorne raced in the Formula Renault categories before jumping up to GP2 and replacing Jenson Button at McLaren this year.



Frenchman Charles Leclerc's burgeoning career is being guided by driver manager and ART Grand Prix co-owner Nicolas Todt.



Red Bull-backed Pierre Gasly won the 2016 GP2 title with Prema Powerteam and is now the F1 team's reserve driver.



Force India's Esteban Ocon is among several current F1 drivers who moved straight to the top category from GP3.

## "A driver must keep his head down and work with the team he's racing for. He can't waste time dreaming he's the next Vettel"

RENÉ ROSIN

both born in 1994, both driving in Western European junior series, never meeting in competition).

This is changing. The FIA, via the office of the Single-Seater Commission, is gradually migrating to a four-tier single-seater system moving up the levels from the new Formula 4 championship – intended as a national series and the first rung on the single-seater ladder – all the way to Formula One. It goes via regional Formula 3 championships – of which the FIA Formula 3 European Championship is the first example – to the top level of junior competition in the former GP2 series, now rebranded as Formula 2.

The move has met with broad approval. "They can be big steps, but they're the right steps," says René Rosin, team manager of Prema Powerteam. "The step between F4 and F3 in particular is big – and maybe sometimes you can't make the jump every year and need a couple of years – but the series are set up for that. In F4, you learn the basic techniques of driving a single-seater, the basics of driving conduct, and you get a lot of mileage to improve your experience rapidly. There isn't much downforce in an F4 car and it's quite easy to overtake. That's good for the first level: you get a good battle, that car moves around and you have to fight it."

"F3 involves working within a team environment a lot more. You have to deal with engineers, cope with a lot of testing and learn how to provide good feedback. After that, you jump up to F2 and build on the F3 experience by learning about strategy. You learn to work with the Pirelli tyres, study degradation, learn how to try different tactics, trying undercuts, starting on an alternate strategy. It's extra knowledge that provides the last little bit a driver needs to be ready for F1."

### BUILDING TO F1

Prema competes across all three junior levels. It runs Formula 4 cars in Italian and German F4 championships, F3 cars in the FIA European Formula 3 Championship and an F2 team. In 2016, it had an impressive clean sweep, winning the team championships in both F4 efforts, F3 and GP2. It added drivers' titles in F3 for Lance Stroll and in GP2 for Pierre Gasly.

While Stroll and Gasly represented the Williams and Red Bull young driver programmes respectively, this year Prema has five of Ferrari's six young drivers in its stable. For a successful team in the junior ranks, working with drivers signed to an F1 team is an interesting exercise.

"It's something to be proud of because it doesn't happen all the time," says Rosin. "The idea of F1 teams having young driver programmes is relatively new but it's not so different from when Elf, Shell, Marlboro etcetera were doing that job.



Jean-Paul Driot of DAMS says F2 provides the perfect preparation for actually driving an F1 car.



Ferrari Driver Academy boss Massimo Rivola would make GP3 less powerful to fit the junior ladder better.



Nicolas Todt is well placed to help drivers as a manager and co-owner of F2 team ART Grand Prix.



René Rosin of Prema says the new FIA structure between the junior formulas is the right one.

"The one thing that we need to make sure the drivers understand is that they're not in F1 yet. They're in F4, F3, F2, irrespective of the F1 programme they're with. A driver needs to keep his head down and work with the team he's currently racing for. He can't waste time dreaming he's the next Sebastian Vettel or Fernando Alonso. Start thinking like that and it's going to go wrong. There's a lot of learning, a lot of effort and, if you do well, then you get the chance – but only if you prioritise the job in the current series, rather than dreaming about its big brother."

For the moment, the pyramid isn't entirely regular and the ascent up the ladder isn't as linear as many would like. One particular outlier is the GP3 series. It's a difficult championship to quantify in the context of the new structure: on the one hand, a step below F2, on the other not a very big step and therefore potentially devaluing both F3 and F2. Certainly several current F1 drivers (Valtteri Bottas, Kvyat and Esteban Ocon) simply skipped GP2 and went directly from GP3 to F1.

Massimo Rivola, director of the Ferrari Driver Academy, believes there is the potential to tweak GP3 to make it a better fit with the new structure. "The right category and the right team can dictate the career of the driver. After karting, what young drivers need most is mileage in the car. F4 and F3 reflect this very well: in F4 they learn to drive a car, in F3 they learn to drive a car with aerodynamic downforce. GP3 has the advantage of being a support race on the F1 calendar, but it doesn't allow the driver to complete many kilometres.

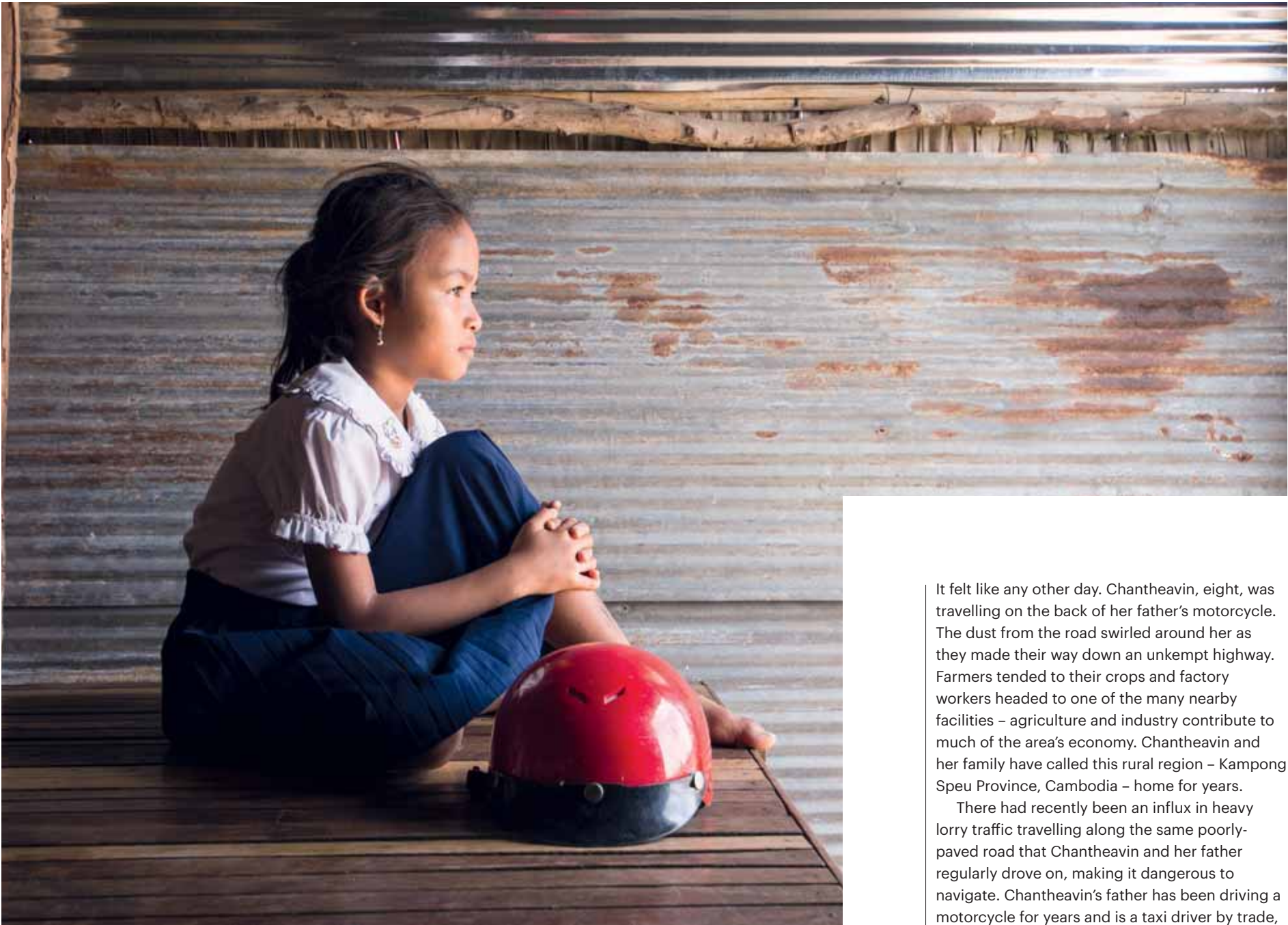
"I think GP3 could be less powerful so that F2 becomes more valuable for the drivers' experience. F2 must be seen as the final exam for a driver before F1 and should not be skipped."

F2 is due to receive a new chassis next year and there has been debate about what the new car should be capable of doing. There is, however, a great deal of respect for the format as it currently stands. Jean-Paul Driot manages the DAMS team that won the 2011 GP2 title with current F1 Haas driver Romain Grosjean, and has run former GP2 race winner Davide Valsecchi and current Renault F1 driver Jolyon Palmer. It has also competed in the rival Formula Renault 3.5 category, in which Kevin Magnussen and Carlos Sainz took the title while driving for Driot's team.

"After driving in F2, driving in F1 is not a problem: in fact, driving the F1 car may be easier," he says. "The challenge for a driver stepping up from F2 to F1 is coping with what F1 is, coping with the press, with the power of sponsors, with the electronics, the huge crew and having two engineers to talk to rather than one. It's a big difference, but the best way to prepare for it is to have driven in F2 and know that you are capable of driving the F1 car."

And this, ultimately, is what a junior career is supposed to achieve: once a driver has found a manager, secured a budget and piled success upon success to get to a point where a Formula One team wants them in their car, they need to buckle into that car and hammer out of the garage with the confidence that comes from knowing they've received an effective motor sport education. ◀





# WISE HEADS SAVE LIVES

06  
/  
JOHN CAMPBELL

Road safety organisations including the FIA FOUNDATION that have campaigned for greater helmet use in Cambodia to reduce fatalities are now seeing the fruits of their labour

It felt like any other day. Chanthevin, eight, was travelling on the back of her father's motorcycle. The dust from the road swirled around her as they made their way down an unkempt highway. Farmers tended to their crops and factory workers headed to one of the many nearby facilities – agriculture and industry contribute to much of the area's economy. Chanthevin and her family have called this rural region – Kampong Speu Province, Cambodia – home for years.

There had recently been an influx in heavy lorry traffic travelling along the same poorly-paved road that Chanthevin and her father regularly drove on, making it dangerous to navigate. Chanthevin's father has been driving a motorcycle for years and is a taxi driver by trade, and he is always cautious when driving along these roads. Navigating bumps and debris was no simple feat. But on that day, Chanthevin's father did not realise there was a pothole in his path. As his motorcycle tyre hit the rut, he lost control of his vehicle and crashed into the side of the road. "In that moment, I didn't care about anything except that my daughter was going to be okay," her father says.

"The crash happened so fast. Before I could realise what was going on, I had flown from my dad's motorcycle and everything hurt," recalls Chanthevin. She had legs, knee and back injuries. But thanks to her helmet, she suffered no head injuries and survived the potentially fatal incident.

In Cambodia, this story is not unique – a motorcycle is often the family vehicle. Motorised two- and three-wheelers account for more than 80 per cent of all vehicles in the country. Whether they're commuting to school or work, or visiting family in the countryside, people of all ages hop on two-wheelers daily, making them some of the world's most at-risk road users. Every day in Cambodia, six lives are lost and 15 more people are seriously injured in crashes. Contrary to the popular idea that infectious diseases and unexploded ordnance pose the greatest threats

to Cambodians, there are 30 times more road crash-related deaths than those caused by malaria, dengue fever and landmines combined. Helmets are just one of the many tools that can save lives. During a road crash, wearing one reduces the risk of death by 42 per cent and serious injury by 69 per cent. Despite the widespread use of motorcycles, however, helmet-wearing rates for both adults and children have historically remained low in Cambodia. And law enforcement efforts have been inadequate – until 2015, there was no law requiring motorcycle passengers to wear helmets. In recent years, international and domestic players have teamed up to fight this deadly reality.

**COLLABORATING TO SAVE LIVES**  
Chanthevin received the motorcycle helmet that protected her during her crash as part of the AIP Foundation's Head Safe, Helmet On programme, which was supported by USAID-Development Innovation Ventures, the FIA Foundation and other partners. The Cambodian government was also involved in the initiative. AIP Foundation is a road safety non-profit organisation with 17 years of experience in the industry.

Head Safe, Helmet On aimed to increase passenger helmet use in Cambodia through three components: school-based programmes, mass-media communications and an advocacy campaign. From 2014-16, the programme served more than 14 million people nationwide. "Our aim has always been to empower people with the tools and knowledge necessary to make Cambodia's roads safe," says Pagna Kim, Cambodia Country Director at the AIP Foundation. "As an NGO, we're not responsible for enforcement and we cannot be everywhere at once. We trust that over time, communities can take ownership and affect change."

The programme was launched in June 2014. Long-term advocacy efforts led by the AIP Foundation came to fruition in January 2015 with the passing of a mandatory passenger helmet law. Enforcement of the legislation, which required that passengers wear helmets for the first time, commenced in January 2016. From 2014-16, adult passenger helmet wearing rates in the programme's three target provinces increased from 11 to 36 per cent. It's estimated that throughout Head Safe, Helmet On's implementation, 349 crash-related casualties were prevented and more than \$3 million USD in losses were avoided in these regions thanks to increases in both adult driver and passenger helmet usage.

**SPREADING THE MESSAGE**  
The AIP Foundation and FIA Foundation have been working together to increase helmet use in Cambodia since 2009. Head Safe, Helmet On built upon this experience and pushed the boundaries of previous road safety work. The programme's school-based activities educated

“Our aim has always been to empower people with the tools and knowledge necessary to make Cambodia’s roads safe”

PAGNA KIM, AIP FOUNDATION

students and teachers from 18 schools about road safety while providing them with quality helmets. At least 332 of these students have been protected from potential head injuries. The campaign also harnessed the power of the media to raise awareness about the new law. Billboards and TV adverts featuring culturally relevant characters were shown nationwide. Nearly 300 outdoor ads were installed around the country, and the message was broadcast on radio and television hundreds of times. The adverts were viewed more than four million times online. Though education and mass-media activities reached millions, the AIP Foundation knew it needed to build a strong road safety culture among public sector players. The programme engaged with 2,660 government stakeholders and worked with traffic police to enhance enforcement efforts. At a local level, it established community working groups that empowered everyday leaders to develop their own initiatives. Communities have already picked up the baton. Instead of issuing fines to offenders, police officers in Kandal Province recently started selling helmets to them. In the initiative's first day, 70 helmets were sold and the government may expand this tactic to other regions. ▶



## A foundation for life

For more than 17 years, the AIP Foundation has been a leader in community programmes and on the global road safety stage

Greig Craft moved from the United States to Vietnam more than 20 years ago. One of the first things he noticed about the south-east Asian country was its intense motorcycle traffic, yet critically low helmet-wearing rates. Craft decided to take action. In 1999, he founded the AIP Foundation. "Increasing access to quality helmets felt like the logical first step in saving lives on Vietnam's roads," says Craft. "We have grown exponentially since launching our initial activities, constantly adapting to new community needs." The AIP Foundation has worked in partnership with local governments and communities to prevent road fatalities and injuries in low to middle-income countries. It currently has offices and representatives in Cambodia, China, Thailand and Vietnam. Throughout its nearly two-decades long history, the AIP Foundation has been heavily involved with advocacy efforts to pass and enforce mandatory helmet laws in Vietnam and Cambodia. It has also led school-based programmes, mass-media campaigns and other life-saving activities with global partners ranging from multi-national corporations to international aid organisations. In 2001, it launched Protec, a social enterprise helmet factory based in Hanoi, Vietnam. The non-profit organisation has ambitious plans for the coming years. AIP Foundation will continue to tackle helmet and pedestrian safety, while also expanding its efforts to teach driving skills and implement anti-speeding initiatives. This year, it will also launch activities in Myanmar, while continuing robust programmes in its current bases.

The Head Safe, Helmet On programme has promoted helmet use in Cambodia, where motorcycles are often the family transport.



**COLLISION COSTS**

The economic effects of road accidents can be devastating. They cost some countries between three to six per cent of their annual GDPs and they disproportionately occur in developing countries. In 2013, the government estimated that road accidents caused Cambodia to lose more than \$330 million USD.

Ros Sonat, a 34-year-old mother of three from Phnom Penh, was involved in a crash while driving her children to school in February. She was crossing a major thoroughfare in the city when another motorcycle crashed into hers. Though her children were safe and her head was protected by a helmet, she suffered other injuries that cost her around \$400 USD in medical bills – that’s nearly equivalent to a family’s average monthly income in an urban area of Cambodia.

Ros’s family has felt the weight of road accidents more than many. Her husband, who worked for years at the Royal Academy of Cambodia, was seriously injured in a car crash while on a business trip in 2014. He is permanently disabled from the incident. Now, he is no longer capable of working and his medical needs place significant burdens on his family.

Head Safe, Helmet On has empowered communities in Cambodia to be safe road users, yet Ros and her family’s story highlights the abundance of work left to be done.

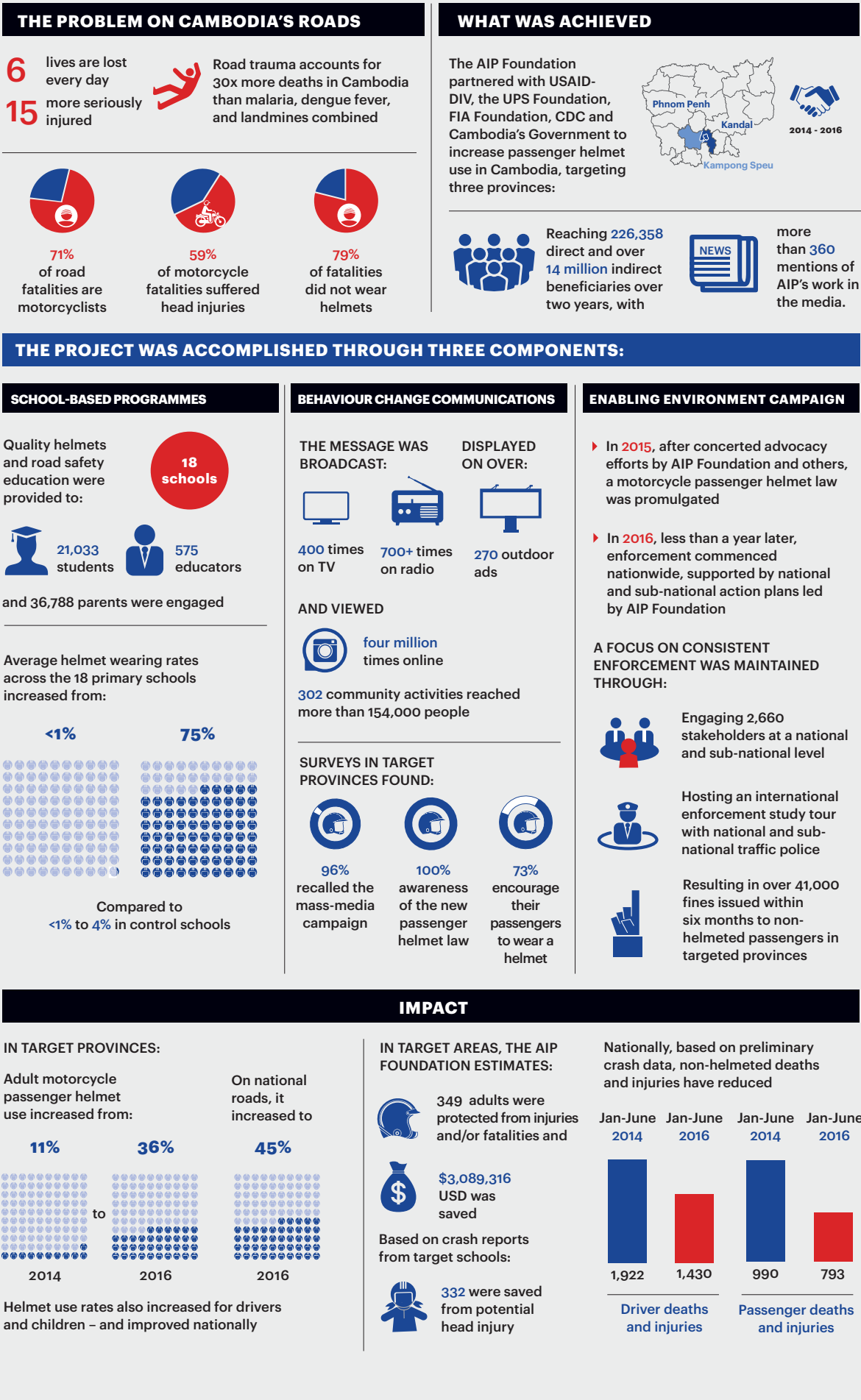
**KEEPING CHILDREN SAFE**

Young people like Chanthevin and Ros’s children are involved in road accidents all too frequently in Cambodia. Worldwide, road crashes are the second leading cause of death for five to 14-year-olds. In Cambodia, 99 per cent of children killed on the roads are not wearing helmets. Though it’s mandatory for children aged three and over, there is no decree that requires fining someone if their child is not wearing a helmet. With no penalty, it’s virtually impossible to enforce the law.

Chanthevin’s father is one parent whose personal experience has made him a child helmet advocate. Both he and his daughter have spoken extensively to their community about how something too often overlooked – a helmet – saved Chanthevin’s life. The AIP Foundation and its partners are devising future plans to improve child helmet compliance using lessons learned from its work in Cambodia, as well as similar initiatives in Thailand and Vietnam.

“We have been working on road safety initiatives in Asia and Africa for 17 years, which allows us to apply our best practices across a range of cultures,” says Mirjam Sidik, CEO of the AIP Foundation. “Head Safe, Helmet On stands as one of our most memorable programmes because it’s a testament to the power of cross-sector cooperation and community empowerment. We’re proud of our achievements, yet we know our work has only just begun.” ❖

## Head Safe, Helmet On





# THE ROAD LESS TRAVELLED

TEXT  
/  
ANTHONY PEACOCK

06

With sales of SUVs booming, the world of cross country rallying is experiencing a surge in interest and participation. But what does the future hold for motor sport’s most gruelling test of endurance – and is there room to incorporate its most famous event into a global cup competition? AUTO investigates...

There’s an important anniversary taking place this year – in the world of dust and desert at least – because 2017 marks the 25th anniversary of the first FIA Cross-Country Rally World Cup season. Pierre Lartigue was the first winner in 1993, with Citroën, and the reigning champion from last year is Nasser Al-Attiyah with Toyota, but here’s a surprising fact: Stéphane Peterhansel, widely acknowledged as the king of off-road thanks to his 13 Dakar wins on both two and four wheels, has never won it. Conversely, the Dakar is the one event everyone’s heard of when it comes to off-road rallying, right up there with the Indy 500 or Monaco Grand Prix.

That fact is at the heart of a small identity crisis that’s now thankfully on its way to being solved. Namely: does the Cross-Country Rally World Cup need the Dakar in its ranks to have a higher profile on the world motor sport stage? Or can the two events co-exist independently?

First, some background. Despite being held more than 10,000 kilometres away, the Dakar has a lot in common with Le Mans. Both are fiercely French and widely regarded as the jewels in their respective crowns, and for long years both stood apart from the major series of their discipline. Until recently, that is. Le Mans has now joined the FIA World Endurance Championship, counting for double points, in a move seen as a homecoming by drivers, teams and fans. So, can Dakar adopt the same model? Well, the situation is a little more complicated... The FIA Cross-Country Rally World Cup consists of Baja-style events and longer cross country rallies (drivers must participate in at least one Baja – worth 30 pts – and one cross country event – worth 60 pts – to be eligible for the series). These events are classified into three categories: Cross-Country Rally, Cross-Country Marathon Rally and Cross-Country Baja. ▶

Cyril Despres, competing here in the 2016 Cross-Country Rally World Cup in Morocco, forms part of Peugeot’s ‘dream team’.









# POWERING PEAK PERFORMANCE

Bred to excel on track and tuned to appeal to the public, the automotive industry’s high-performance divisions aren’t just exercises in excess – they’re a hi-tech hotbed of innovation and a calling card for corporate growth

06

TEXT  
/  
BEN BARRY

Some might argue that high-performance road car divisions are ego-driven indulgences out of step with eco-conscious times. Yet these semi-autonomous businesses are driving the growth and profitability of most premium and many mainstream car makers like never before. In some cases, they transfer technology from closely-related motor sport programmes, which subsequently trickles down to improve the efficiency of mainstream models.

Take Mercedes-AMG. Celebrating 50 years in 2017, AMG has its roots in competition – the 300 SEL 6.8 placed second at the 1971 Spa 24 Hours – and later applied its expertise to Mercedes road car tuning. The collaboration with Mercedes began in 1990, leading to the C36 AMG production car. Mercedes acquired AMG outright in 2005.

Today, Mercedes-AMG is as synonymous with Formula One as powerful road cars, a relationship the product planners and marketing experts are keen to exploit. When Mercedes launched its latest F1 car, the W08 EQ Power+, it coincided with the introduction of the ‘EQ Power+’ sub-brand, set to feature across future hybridised Mercedes-AMG models; the closely related ‘EQ Power’, meanwhile, will debut on models such as the plug-in hybrid Mercedes S-class produced outside AMG. With Mercedes broadcasting the W08’s Silverstone launch live to a social media following of 14 million people, the potential to convert motor sport fans into road car buyers was clear. ▶

Dodge is famed for its muscle cars, so its SRT division takes things to the next level – the new Dodge Challenger SRT Demon boasts 840bhp and goes from 0-60mph in 2.3 seconds.





















# “Forget everything – just drive the car”

07

Four world titles, 24 wins, 45 podiums and now the mastermind behind Toyota’s latest FIA WORLD RALLY CHAMPIONSHIP adventure, *Tommi Mäkinen* is a legend of the big stages. Not bad for a farm boy who, after three decades in the sport, still believes that “If a driver wants to win, they have to give their maximum effort all of the time”

TEXT  
/  
DAVID EVANS

PHOTOGRAPHY  
/  
ANDRÉ LAVADINHO

Rally Sweden, February 2017. One stage remains and Toyota driver Jari-Matti Latvala is sitting on a 9.4-second lead. But he looks like he might be having a wobble. Enter Tommi Mäkinen.

The senior of the two Finns made his name, his career and his four World Rally Championship titles out of situations just like this. Mäkinen wasn’t a man for second place. Of the 139 world rallies he started, he ended just five as runner-up. He won 24.

A final-stage charge was trademark Tommi. And now, as team principal of Toyota Gazoo Racing, he’s ready to impart some of that knowledge to his younger countryman. It works. Latvala wins in fine style and the celebrations are long and loud. So, what did Mäkinen say to get Latvala across the line?

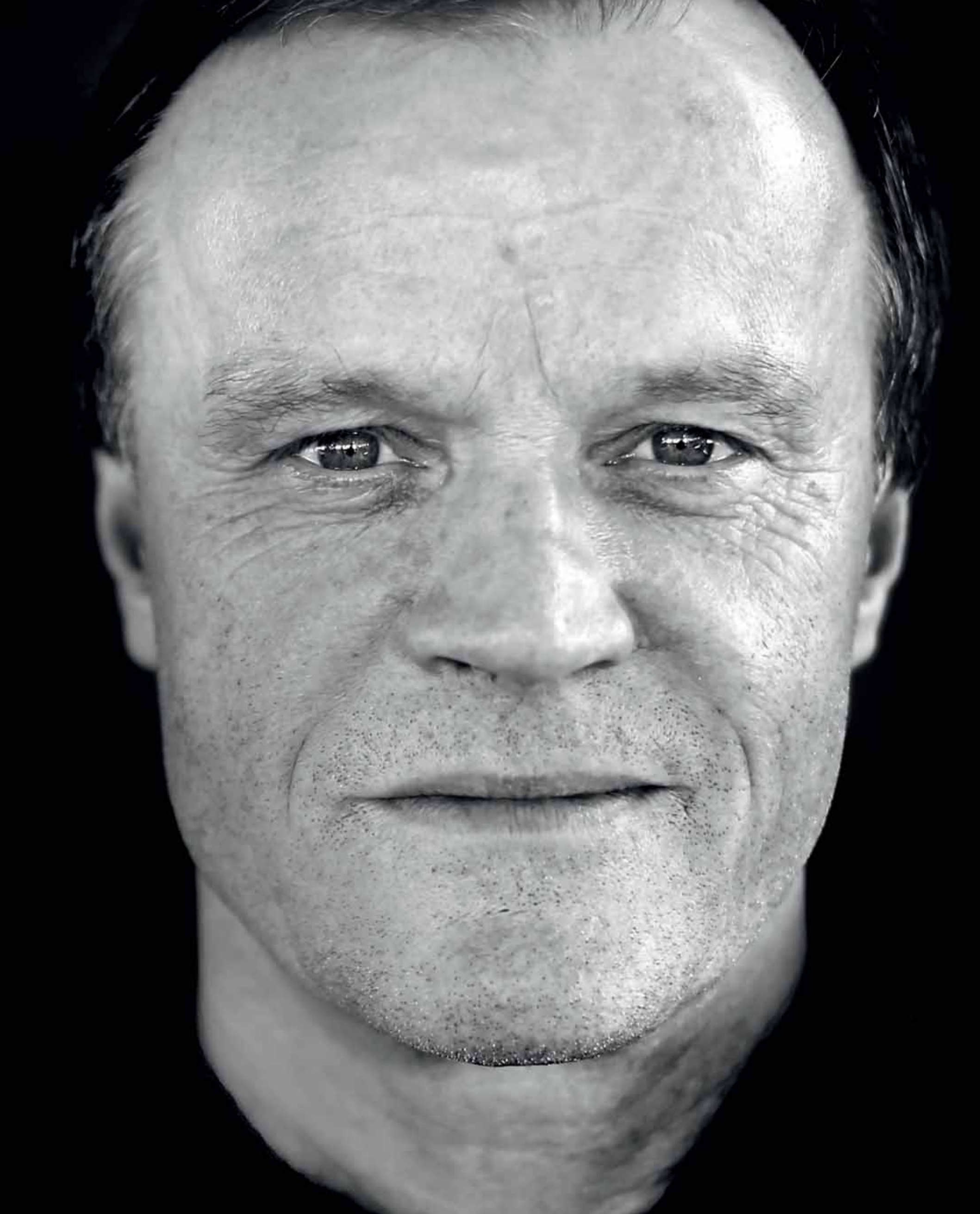
“He told me to forget everything else and just drive the car,” shrugs Latvala.

It’s a simple enough instruction, but for anybody who knows Jari-Matti, a driver with an in-built tendency to sometimes over-analyse situations, it’s a straightforward reduction of issues to the fundamental truths that the Finn occasionally needs most.

As a driver, Mäkinen could cast everything from his mind except the bare essentials needed for attacking the next corner as hard and fast as possible. Tommi was the real deal, a driver worthy of the mantle ‘Flying Finn’. He was cut from the same cloth as the likes of Rauno Aaltonen, Hannu Mikkola and Markku Alèn, legends who passed over those roads before him. Victory was everything, second place, *defeat*, unthinkable.

Now though, his success lies in the hands of Finland’s current and next generation: Latvala, Juho Hänninen and Esapekka Lappi – Toyota’s 2017 World Rally Championship line-up. Sitting on the sidelines managing is not something that comes easily to Mäkinen. He’s hands-on with everything he does and there has been more than one occasion when he’s had the look in his eye that... *If only, if only I could get out there and drive the car.*

But he doesn’t miss driving – at least not the competition. Running Toyota’s return to the WRC is what he’s about now and, despite a very late start and limited testing last year, he’s not making a bad fist of it. A podium on the first round in Monte Carlo was followed by Latvala’s victory in Sweden. ▶















07

# Summit of achievement

Soon to be reinvented for the 21st century luxury sports car market by Renault, Alpine’s iconic A110 – bred to race – was the product of one French garagiste’s singular vision. AUTO tracks the rise of a remarkable rally fighter...

TEXT  
/  
JUSTIN HYNES

When Renault took the covers off the car it hopes will battle Porsche’s 718 on forecourts across the world at this year’s Geneva Motor Show, the sighs of appreciation and, more importantly, emotional connection provided proof that the French firm had at least got the look and feel of its reborn version of the iconic Alpine A110 sports car right. There, in abundance, were the fluid curves that made the original so understatedly beautiful, a silhouette uninterrupted by ugly wings or extraneous bodywork extensions. At the front were the familiar, round, inset fog lamps and

finally the blue colour so inextricably associated with the original. Two elements of the launch stood out: the reverence in which the original A110 is still held and the fact that in its bid to take on the big guns of mid-level luxury sports cars such as the 718 and Alfa Romeo’s 4C, Renault had only s one choice – to defrost the Alpine name and the famous marque’s most storied model, a truly revolutionary car that took its parent company from the realms of boutique manufacturer to the top of the motor racing tree. ▶

Renault’s new Alpine A110, designed as a luxury sports car, has echoes of the original rally winner (above).









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# Making gains in Spain

08 TEXT / GAIA PELLICCIOLI

From championing road safety and the rights of motorists, to encouraging the racing champions of the future, Spain's automobile clubs provide a future-focused support network on the road and track ▶





After a five-year period of decline, vehicle sales in Spain are rising again. Indeed, over the past year Spain ranks among the top 10 countries for new car registrations in a survey of 36 European countries. In the year to April 2017, new vehicle registrations in Spain grew by 9.74 per cent.

Serving the needs of an increasingly motorised population and dealing with the consequences of increased road use are the two national automobile clubs, the Royal Automobile Club of Catalonia (RACC) and the Royal Automobile Club of Spain (RACE).

In a rapidly changing automotive environment, these clubs are at the forefront of action to develop safer, more sustainable, better connected and more accessible mobility for all road users, led by RACC President Josep Mateu and RACE President Carmelo Sanz de Barros.

Spain also has a rich tradition of motor sport stretching back to 1908, when events were held on roads around the coastal town of Sitges near Barcelona. The first permanent circuit, a 1.2-mile oval known as Sitges Terramor, hosted the 1923 Spanish Grand Prix. More recently the efforts of legendary motor sport figures such as two-time Formula One champion Fernando Alonso and double World Rally Champion Carlos Sainz have boosted that tradition, and a vibrant national motor sport scene is presided over by the Spanish Automobile Federation (RFEDA) and its newly-elected president, Manuel Aviñó.



Being based in a 'smart city' such as Barcelona has helped the RACC to set its sights on the future.

## RACC: looking to the future /

Founded in 1906, the Royal Automobile Club of Catalonia (RACC) has 825,000 members and looks after 10 million individuals, all catered for under the club's slogan 'We are here to help'. The club provides personal assistance services (roadside assistance, home assistance, healthcare and legal protection) and insurance products with a portfolio of more than 618,000 policies.

At a time when the future of the car and its role in society is uncertain, the Catalan club's management has a clear vision of how to position the organisation in the face of new mobility challenges.

"The RACC's great objective for

the coming years is to consolidate its evolution from a drivers' club to that of a mobility service club", says club President Josep Mateu. "The club has assumed the challenge of developing solutions to meet the new needs of people ever more connected and more interested in combining different means of transport."

With a focus on projects that promote sustainable, integrated systems of transport, the RACC has developed agreements with various transport operators. Together with Esade Creapolis it has launched a carpooling pilot programme for commuters and has also investigated the possibility of investing in mobility start-ups such as Socialcar, the number one Spanish site for car rental between private individuals.

Having its headquarters in a burgeoning 'smart city' such as Barcelona has greatly contributed to the club's involvement in innovative, entrepreneurial and technological mobility. "Our aim is to be based on technology to give more personalised support and get to know our members and clients better, offering them what they need, when they need it," explains Mateu.

"Currently, the RACC's main income is from individuals, in which membership and insurance account for 73 per cent of the total. The remaining income is from assistance to groups and other services to individuals such as travel, mobile telephones, driver training and household services."

However, in a rapidly changing automobile sector, the club has had to adapt to new realities, diversifying and launching new services.

"In the context of the strategic plan the RACC drew up in 2015 for 2016-2020, different lines of action were established to diversify the club's businesses, and particularly the creation of the RACC New Business Lab, with the basic mission of launching new mobility services," says Mateu. "We are convinced that this focus will allow us to enter a broader client segment."

Like other clubs, the RACC is heavily involved in activities and programmes to improve road safety. While Spain has seen a reduction in fatality rates in recent years, with a current level of 3.6 deaths per 100,000 people, there has not been a similar reduction in the number of accidents, which has remained the same since 2013.



RACC President Josep Mateu is helping the club move into the 21st century with a focus on future mobility while maintaining a passion for motor sport.

In response to this, the club has drawn up a plan to present to the Spanish State's Mobility Commission, with 20 measures for 2020 that can be quickly applied and which could make a decisive contribution to the reduction of accidents by 50 per cent on 2010 figures.

"The main risk factors must be reduced and the vehicle fleet must be modernised and made safer," insists Mateu. "But for these measures to be effective, investment in infrastructure maintenance must be restored and quantitative goals must be set to allow circulation on roads with at least three stars according to EuroRAP protocols."

It's not just vehicles and infrastructure that must be tackled, but also education and awareness. As such, the club has implemented road safety initiatives for the elderly – the most at-risk group of road users in Spain. The self-evaluation site, supported by the FIA Road Safety Grant Program, aims to help older



The RACC has been a keen supporter of Formula One and the Spanish Grand Prix, based at the Circuit de Barcelona-Catalunya.

people decide whether they should continue driving or not.

In February the club equipped its driving schools with virtual reality systems to enable students to view conflictive driving situations from the safety of the classroom. "The initiative is in line with the RACC's aim to improve safety for young drivers," says Mateu. "Despite a drop in the number of victims in recent years, traffic accidents are still one of the most frequent causes of death in the 15 to 29 age group in Spain."

The club is not just involved in all aspects of road use and a passion for motor sport led the RACC to be the first automobile club to simultaneously organise rounds in Formula One, MotoGP, the World Rally Championship and World Rallycross. The Spanish Grand Prix, in which the RACC plays a key role, is an important event for the club and its promotion of motor sport.

"It is now 27 years since Spain started to once again host F1, thanks to the Circuit de Barcelona-Catalunya," says Mateu. "Our club worked from the outset on this goal, encouraging its construction and achieving the dream of providing our country with a strategic infrastructure for motor sport."

"We have worked hand-in-hand with all the circuit's stakeholders and we've strived to have the competition recognised for its rigour and good organisation – and we do this because a passion for motor sport."

## RACE: on the side of motorists /

A long economic slump, an ageing population and a fleet of more than 24 million cars: taken together, these three factors explain how Spain has seen a significant reduction in maintenance work on vehicles and a subsequent increase in breakdowns.

"With an increase of 54 per cent of our market share over the last four years, we've had to provide for more roadside assistance," says Carmelo Sanz de Barros, President of the Royal Automobile Club of Spain (RACE).

In a country covering 506,030 km<sup>2</sup>, that hasn't always been easy. "One of RACE's main objectives is to provide assistance across the nation," he adds. "We often find partners in places where technical solutions are difficult. It is essential to have the perfect structure of operators, mechanics, repair trucks and – above all – technology."

A current roadside assistance goal is to increase the percentage of repairs done over the phone (with 24/7 coverage) and solve mechanical problems in the shortest possible time. RACE has, over the last decade, provided a high quality of service that, according to Audit Assistance, has made it the country's highest-rated club. Its reputation has been boosted by the development of aids such as the RACE SOS App, which allows for the quick and accurate pinpointing of club members in need, or the RIN system (Roadside Intelligent Network) that via smartphone geo-positions vehicles and monitors service. The launch of the RACE 10 fleet – 2,300 vehicles providing on-site repairs – has led to an even more efficient service in over 4,000 Spanish towns and villages.

"Even though we are proud to have high rates of satisfaction, we will not be entirely satisfied until we have the technology to perform the RIN in practically all cases," says Sanz de Barros. "But we also continue to work on preventive care, to locate potential faults before they occur."

Club management is aware, however, that roadside assistance cannot be its sole revenue stream. "We concluded that the drivers could best tell us what products and



The RACE-Red Bull drivers' academy at Jarama and, left, RACE President Carmelo Sanz de Barros.

represents an important aspect of the RACE programme. As a result, in 2016 and in collaboration with drinks manufacturer Red Bull, the club created the Drivers' Academy RACE-Red Bull, which has trained more than 500 young drivers.

Based at the Jarama race circuit in Madrid, the academy involves a number of different driving exercises designed to give young people an understanding of the performance of the vehicles under their control.

In addition to being the academy HQ, the Jarama track has a long history as the first permanent speed circuit built in Spain. Modernised in 2012, it is fully owned by RACE.

"For several years we've hosted events such as the Jarama Classic, the GP Truck of Europe and the Jarama Spirit, attracting over 100,000 people a year," says Sanz de Barros.

In a fluctuating market, he says the future must be focused on members. "[Autonomous, electric, shared and connected vehicles] will change the market but they will not change our members, since they will always need help with travel, home assistance, etc. RACE, as an important leader in our market, will manage this transformation for our partners and customers." ▶

"We concluded that the drivers could best tell us what services they needed"















# RICHARD MILLE

A RACING MACHINE ON THE WRIST



CALIBER RM 11-03