AUTO

INTERNATIONAL JOURNAL OF THE FIA

issue #34

1940-2021

Max Mosley

FIA President 1993-2009

MOTION FOR LIFE

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OFFICIAL FOUNDING PARTNER
AND TYRE SUPPLIER

AUTO INTERNATIONAL JOURNAL OF THE FIA

Editorial Board: Jean Todt, Gérard Saillant, Saul Billingsley, Olivier Fisch
Editor-In-Chief: Justin Hynes
Contributing Editor: Marc Cutler
Chief Sub-Editor: Gillian Rodgers
Art Director: Cara Mills
Contributors: Ben Barry, Julianne Cerasoli, Santiago Pena Gomez, Piotr Magdziarz, Gareth Manning, Gaia Pelliccioli, Joe Saward, Tony Thomas, Kate Turner
Repro Manager: Adam Carbajal
Printing: Golinelli Communications Lab
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Advertising: Stephane Fillastre
sfillastre@fia.com

Design Origination: seidldesign, Stuttgart
seidldesign

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.

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Dear reader, dear friend,

In this edition of AUTO we pay tribute to former FIA President Max Mosley, who passed away at the end of May. In his time as President, Max's pioneering work on safety on the road and the track resulted in the saving of countless lives. He leaves behind a notable legacy of achievement and will be greatly missed. We also remember Mansour Ojjeh, who marked Formula 1 history and achieved great success with Williams and McLaren. Again, he was a unique figure with a true passion for our sport. And lastly on the theme of remembrance, in the first part of our Rear View section we honour Carlos Reutemann. He was a genuine F1 legend of who brought panache and skill to the grid.

The Federation's work on safety never ceases and in this issue we bring you news of advances on track – in the shape of an updated seat standard for motor sport – and on the road, as we welcome two new ambassadors to the #3500LIVES campaign: Formula 1 racer Mick Schumacher and UCI road cycling champion Julian Alaphilippe. We also hear from UCI President David Lappartient who speaks about the cycling federation's alliance with the FIA to promote Sharing the Road.

We continue our series on the goals of the FIA's #PurposeDriven movement, which seeks to bring together the FIA community in pursuit of actions that accelerate positive contributions to society across four pillars: Health & Safety , Environment, Diversity & Inclusion and Community Development.

This time we focus on the topic of environment and the President of the FIA Environment & Sustainability Commission, Felipe Calderón, details the missions of the recently-formulated FIA Environmental Strategy, explaining why motor sport provides the perfect laboratory for innovation. And there is no better illustration of that than the new FIA Electric GT Championship, which aims to push the development of battery technology. We also look at how the FIA Environmental Accreditation Programme is helping Member Organisations to put sustainability at the heart of their operations.

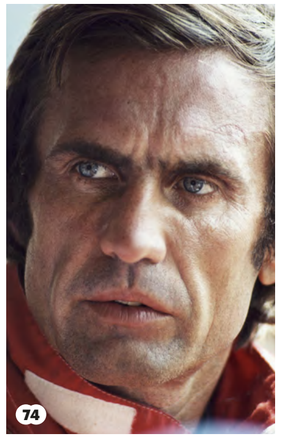
Elsewhere, we profile automotive leader AUDI CEO Markus Duesmann, and in another leadership role we meet Dr Young Tae Kim, Secretary-General of the International Transport Forum. The ITF and FIA have enjoyed a long and fruitful partnership and Dr Kim explains how our organisations have collaborated on a new website, www.disabledmotoring.fia.com, which aims to ease the transport concerns of millions of people globally. In the realm of diversity, we talk to the women spearheading the all-female Richard Mille Racing Team's season in the FIA World Endurance Championship.

Finally, our Rear View section concludes with a look at the history of Zandvoort Circuit, in the Netherlands, which in September returns to the Formula 1 calendar as the home of the Dutch Grand Prix for the first time since 1985. I hope you enjoy the read.

JEAN TODT,
FIA President

contents

From the FIA's tribute to Max Mosley, to the car makers racing to go electric, and sustainability in motor sport, this is AUTO



JULIAN ALAPHILIPPE PIC BY: WOUT BEEL

FIA FORMULA 1 WORLD CHAMPIONSHIP

ALPINE SHOWS BRAIN POWER

The Alpine F1 Team proudly displayed the Paris Brain Institute's logo on its cars and mechanics' helmets at the French Grand Prix as part of a new collaboration. Both Fernando Alonso and Esteban Ocon's A521 cars carried the Institut du Cerveau ICM logo at the Paul Ricard event in June. Founded in 2010 by Institute President Professor Gérard Saillant and Vice-president and President of the FIA Jean Todt, the ICM is based at the Pitié Salpêtrière Hospital in Paris. It is revolutionary in the development of innovative research programmes in multiple pioneering areas of neuroscience. The collaboration will allow the Institute to analyse decision-making and human performance at the pinnacle of motor sport.

A PARTNERSHIP WITH PURPOSE
Praising the new alliance between the Alpine F1 Team and the Paris Brain Institute, FIA President and Institute Vice-President Jean Todt said: "I am delighted with this partnership, which will combine Alpine and the ICM's talents in technical and medical innovation for further research and understanding into decision-making to help performance and health."

Alpine CEO Laurent Rossi, Jean Todt and Professor Gérard Saillant admire the team's new ICM logo.

FIA INTERCONTINENTAL DRIFTING CUP

DEANE IS TOP DRIFTER

FIA Intercontinental Drifting Cup rookie James Deane, driving a Nissan Silvia S14, has clinched the world's top drifting crown at the Biķernieki Complex Sports Base in Riga. With numerous wins across multiple contests at the Latvian venue, the Irishman is considered a specialist at the circuit, and after easing through the opening match-ups Deane faced local 16-year-old sensation Nikolass Bertans in a BMW E36, emerging victorious after a hard-fought final. Ukraine's Max Miller was third. Launched in 2017, the FIA IDC is the first FIA-regulated drifting competition. The primary three editions were held in the sport's spiritual home of Japan, with the first European contest staged at a venue best known for hosting World RX.

WORLD RECORD HOLDER
James Deane might have been making his FIA IDC debut at Riga in June, but the Bikernieki Complex Sports Base has previously proved a happy hunting ground for the 29-year-old Irishman from Castletownroche, who is a triple Formula Drift Champion and holds the World Record for longest tandem drift alongside Ahmad Daham at 28.52km.

01

NEWS

In this issue: FIA report shows motor sport's huge global economic input; Hyundai and FIA launch Rally Champions World Tour; Truck Racing becomes first FIA series to switch to fully sustainable fuel; FIA unveils new world-level electric touring car contest; Indigenous team drives diversity in Australilan Supercar Championship

FIA reveals motor sport contributes €160 billion to global economy

The FIA has revealed the findings of a key study commissioned to EY-Parthenon, which shows that motor sport contributes €160 billion to the global economy and 1.5 million total paid jobs.

The report is the first of its kind globally and is designed to show the global economic and social impact of motor sport. The study involved extensive data collection and analysis with 2.7 million participants worldwide made up of 231,000 marshals, 917,000 competitors, 72,000 officials, and 1.5 million non-competing club members.

In addition, there were insights from a broad range of motor sport industry publications, which showcased the economic contribution of motor sport prior to the global onset of COVID-19.

After spending the last 18 months working on collecting the data from these sources, the findings were published during the FIA Conference in Monaco in July and showed that the total value added to the world economy is €166.9 billion.

The findings were hailed as "remarkable" by FIA President Jean Todt, who said they showed that motor sport is contributing to the rebound of the economy as the world grapples with the economic damage caused by the COVID-19 pandemic.

President Todt added: "This report reveals that the motor sport industry represents 160 billion euros total annual gross output and 1.5 million total paid jobs. This is remarkable and it demonstrates that our sport efficiently contributes to the rebound of the economy in COVID-19 times.

"I would like to thank EY-Parthenon, our Member Clubs, the FIA championship promoters and all those who have participated in this global interest study."

Each National Sporting Authority (ASN) will be able to access the report and get a snapshot four-page view which will outline the economic influence, direct output, value added and employment of motor sport in their own country.

FIA Deputy President for Sport, Graham Stoker, said: "It's an exciting project, and we'll continue to polish and improve it over time. It means that when ASNs talk to government, with a rock-solid basis you can tell them we're not only a sport, but we bring jobs, economic impact, we help young people with STEM education, advanced engineering, and we've got a voice in some of the key debates like sustainability."

Motor sport's strong contribution to the global economy is detailed in an FIA-commissioned report.

FIA Safe & Affordable Helmet Programme launches in Kenya

The FIA has launched its Safe & Affordable Helmet Programme in Kenya with a high-level event in Nairobi. The event featured His Excellency Hon Uhuru Kenyatta, President of the Republic of Kenya; Jean Todt, FIA President and the United Nations Secretary General's Special Envoy for Road Safety; and Dr Amina Mohamed, Cabinet Secretary for Sports, Heritage and Culture in Kenya.

Africa has the highest estimated road traffic fatality rate of 26.6 per 100,000 people. With a motorcycle fleet of 1.4 million vehicles and an estimated 12,463 road traffic-related deaths in 2018, Kenya has among the highest road traffic death rates in Africa. This initiative has the potential to reduce fatalities and injuries on Kenya's roads.

The event also served to launch the Helmet Wearing Coalition for Kenya. Supported by the FIA Foundation and led by Transaid, the coalition is a multi-sectoral group with participants from government (National Transport & Safety Authority, Ministry of Health, Traffic Police, etc.), the Automobile Association of Kenya – FIA Member Club, Kenyan Red Cross, Motorcycle Taxi Associations, the private sector, civil society groups and international development partners such as the World Bank and World Health Organization among others, working to develop solutions to make Kenyan journeys safer.

Around 5,000 helmets (including 1,200 in Kenya) will be donated by the Keep Fighting Foundation, inspired by Michael Schumacher's family, the first partner of this FIA programme, and the Hungarian Motorsport Development Agency on behalf of the Hungarian government, which has chosen Kenya as a beneficiary of its donation of 6,300 helmets to advance helmet safety in the country. They will be distributed as part of the work promoted by the Helmet Wearing Coalition for Kenya to raise awareness of the importance of safe and high-quality helmets among two-wheeler riders and professional boda-boda drivers, and on the need to upgrade helmet standards. The recipients will undergo two-wheeler safety training by the Automobile Association of Kenya and accredited safety training organisations.

Jean Todt, FIA President, said: "Wearing a helmet is a key issue in protecting the lives of two-wheeled riders. The FIA Safe & Affordable Helmet Programme is part of the consolidated action our Federation is taking to make a profound impact on this global challenge."

Jean Todt attended the Safe & Affordable Helmet Programme launch in Nairobi.

New Gen 2 Formula 4 car revealed in Monaco

The FIA has revealed the second-generation Formula 4 car that will be used in National F4 Championships around the world.

National F4 Championships certified by the FIA are the first step out of karting into cars for young drivers at various stages of physical development, which is why the new car has more ergonomic flexibility to accommodate different driver sizes and increased visibility to ensure maximum accessibility.

Additional safety updates to the new car include a survival cell that has been upgraded to be in line with the most up-to-date safety standards. To achieve this, stringent load tests were implemented for the survival cell side strength, and the side and frontal anti-intrusion panels of the car.

FIA Formula One Race Director and Single-Seater Sporting Director, Michael Masi, said: "The second-generation F4 car has been carefully developed by the FIA and its suppliers and partners to offer a significant upgrade in the key areas of safety and performance, while remaining cost-effective for championship organisers and competitors."

The new engine package is also more cost-effective by comprising of as many carry-over parts as possible from the previous specification, while also allowing for hybridisation should championship organisers wish to include it.

The power output has been adjusted so that the power-to-weight ratio remains at the appropriate level for this first step into single-seater racing, with a target of 3.6kg/BHP across all cars from the various championships.

FIA launches new disabled motoring website

The FIA Disabled Motoring website has been launched in collaboration with the International Transport Forum (ITF): http://disabledmotoring.fia.com

More than one billion people in the world live with some form of disability. In many countries, people with disabilities make up a significant and growing part of the community. For the huge number among them who need or want to travel by car, finding information about what is available to help them in different regions or countries can be difficult and sometimes impossible.

Non-discrimination laws and policies have reduced barriers to independent mobility, notably the UN Convention on the Rights of Persons with Disabilities. However, anyone with a disability needs to be confident before they set out that every stage in a journey will be manageable.

The FIA Disabled Motoring website provides access to information on facilities and options for people with disabilities travelling by car in different countries around the world. It is based on data collected from FIA Member Clubs and ITF Member States around the globe.

The website is also a resource for everyone travelling outside their own country who is unsure about the rules and conditions for disabled drivers. It answers questions such as: 'Am I allowed to drive here?', 'Where can I park?' and 'Can I rent a car?'.

Falling under the 'Diversity and Inclusion' pillar of the #PurposeDriven movement launched by the FIA, the disabled motoring website illustrates how the FIA and its global community of members are working to improve access to mobility for all road users.

FIA Disability and Accessibility Commission President, Nathalie McGloin, said: "The Disabled Motoring website will be such a valuable resource for travelling disabled drivers. We've been in need of something like this for a long time so I'm very excited that the FIA and ITF have taken the lead on this important subject."

FIA and Hyundai launch Rally Champions World Tour

The FIA and Hyundai Motorsport have joined forces to launch the FIA Rally Champions World Tour, which aims to promote rallying talent from regional series around the world.

It will support the championship winners from five of the FIA's regional rally series by offering them a prize drive in a Hyundai i20 N Rally2 on a WRC event in 2022.

Title winners in this season's African, Asia-Pacific, CODASUR, Middle East and NACAM championships will be offered the prize drive, while the programme will run for three years – the victorious crews from 2022 and 2023 also eligible for the prize and to take part in WRC events during 2023 and 2024 respectively.

The i20 N Rally2 at the centre of the prize is the latest rallying design from Hyundai Motorsport Customer Racing. Set to be homologated ahead of its planned competition debut in the WRC2 section of Ypres Rally Belgium in August, the car is the successor to the Hyundai i20 R5, which has clinched several national and international titles since its first runs in the hands of customer teams and drivers in 2016.

"I'm very pleased and proud to announce this initiative developed in partnership with Hyundai Motorsport, which will boost FIA regional rally championships and make them more attractive to competitors across all continents," said FIA Rally Director Yves Matton. "Furthermore, by creating a pathway for competitors from non-European nationalities to the top of the rally pyramid, it will provide greater diversity in FIA world rallying."

A prize drive in Hyundai's new i20 N Rally2 is on offer to regional rally series winners.

FIA and Essilor extend commitment to good vision for safer roads

The FIA and eye company EssilorLuxottica have renewed their partnership to raise awareness of the importance of regular eye checks for all road users and, more broadly, to promote good vision for safer roads.

Together, EssilorLuxottica and the FIA will roll out a comprehensive plan mobilising public and private stakeholders, and leveraging both innovation and their global reach.

In August 2020, the United Nations General Assembly (UNGA) adopted Resolution A/RES/74/299 proclaiming 2021-2030 as a new 'Decade of Action for Road Safety', with the objective of halving the number of road victims by 2030. To achieve this goal, the United Nations (UN) issued a set of recommendations including a call for countries to implement appropriate, effective and evidence-based legislation on risk factors related to distracted or impaired driving. Adopting measures to ensure good vision for all road users is part of these recommendations.

The UN also encouraged Member States to take measures to promote road safety knowledge and awareness among the population through education, training and advertising campaigns, especially among young people, and to share good road safety practice.

Road users are encouraged to have regular eye checks under a new deal by the FIA and Essilor.

The renewed three-year partnership will continue to mobilise the general public, institutions, mobility players and eye care professionals to address the UN's strong call for action. It will roll out a wide range of initiatives focused on: reinforcing awareness campaigns and advocacy in the run up to the 2022 UNGA dedicated to the road safety global plan of actions; accelerating innovation in the areas of eye exams, visual solutions and other road safety-related products such as helmets, leveraging racing expertise to apply it to the roads and scaling up access to visual equipment in close collaboration with FIA Member Clubs all over the world.

New African infrastructure toolkit for walking and cycling

African road safety is being prioritised in a new FIA-backed guide.

A new guide to prioritising safety in road design and improvements, the 'Infrastructure Toolkit for Non-Motorised User Safety in African Cities: Challenges and Solutions', has been launched by NGO Amend with the support of the FIA Foundation and the High Volume Transport Applied Research Programme.

The Toolkit draws together expertise and experience across a wide range of African contexts to demonstrate practical, affordable and accessible ways to save lives, including evidence from Amend's School Area Road Safety Assessments and Improvements (SARSAI) programme. The Toolkit identifies 12 key road infrastructure challenges for the African context and delivers realistic and readily available solutions at any scale, based around Amend's underlying principle that roads which are safe for children are safe for everyone.

The majority of African journeys are made by foot but the roads in both rural and urban environments are designed for motor vehicles, serving the needs of a tiny minority of users. Growing urbanisation and rising youth populations are furthering that imbalance as more pedestrians compete for and negotiate spaces increasingly built around vehicles.

Saul Billingsley, Executive Director of the FIA Foundation, said: "A child in Sub-Saharan Africa is twice as likely to be killed by road traffic as anywhere else on Earth. This shocking and neglected health inequality comes despite Africa having the lowest level of motorisation in the world. This Toolkit is immensely practical and relevant to the real needs of urban Africa. It will undoubtedly help governments and others to design and build safe roads."

Results in from latest Euro NCAP tests

The new Renault Kangoo and Opel Mokka have earned four stars in the latest round of Euro NCAP tests, while both the Mercedes-Benz GLA and electric Mercedes-EQ EQA were given ratings based on the 2019 five stars of the Mercedes-Benz B-Class, from which the vehicles are largely derived. Finally, the Cupra Leon gets a 2020 five-star rating carried over from its twin, the SEAT Leon.

The long overdue, new edition of the Renault Kangoo MPV performed well in crash tests, but with only moderate side impact protection offered, its score just fell below that required for a top five-star rating. The latest Kangoo, however, comes with several active safety features including autonomous braking systems to prevent collisions with cars, pedestrians and cyclists – which all activated correctly in Euro NCAP's crash avoidance tests.

Renault's new Kangoo performed well in Euro NCAP crash tests for a four-star rating.

The second-generation Opel Mokka marks a switch from GM's original Gamma II platform to the new Stellantis' Common Modular Platform (CMP), also used for the latest Citroën C4 and ë-C4. The Opel Mokka sits firmly in four-star territory. With no AEB for cyclist protection and lacking a centre airbag, the car fails to break the five-star threshold in any area of assessment, including that of child occupant protection.

Euro NCAP's Secretary General, Michiel van Ratingen, said, "Two four-star cars but coming at it from different directions. With the Kangoo, Renault has launched a respectable successor that performs well in general and lacks only a centre airbag as far as state-of-the-art protection is concerned. Stellantis seems to accept lower performance in general, and the new Mokka lacks some critical safety systems that have become increasingly commonplace by now. The latest edition clearly lacks the ambition of the previous Mokka that was a runner-up of 2012 Best in Class in the Small Family category."

FIA ETRC completes 100% sustainable fuel switch

The FIA European Truck Racing Championship completed a switch to 100 per cent sustainable fuel during a season-opening meeting at the Hungaroring, becoming the first FIA-regulated competition to do so.

Following an official tender process and the approval of the FIA World Motor Sport Council, TotalEnergies was selected as the championship's exclusive supplier for a three-year term, with all competitors running solely on its HVO100 biodiesel.

HVO is Hydrotreated Vegetable Oil, a premium fossil-free diesel product made of 100 per cent renewable raw materials that does not release any new carbon dioxide into the atmosphere.

It is produced by the hydrotreatment of vegetable oils and animal fats, and the result is a premium quality fuel with a chemical structure nearly identical to regular diesel which can be used in a regular combustion engine without the need for any modifications.

Owing to its high cetane number, HVO has a positive impact on performance compared with conventional diesel fuel. It also reduces exhaust emissions and combustion noise, achieving better cold-start performance and thus making the product well suited to the requirements of the truck haulage industry.

HVO meets the Advanced Sustainable (AS) fuel criteria, which states that the fuel must reach greenhouse gas emissions savings of at least 65 per cent over the entire cycle from well to wheel, and complies with the European Union's Renewable Energy Directive II (RED II).

"We're delighted to have FIA ETRC paving the way with a switch to HVO100 biodiesel," said FIA Truck Racing Commission President, Manuel Vidal. "Through relevance to the truck haulage industry this shows motor sport can be a laboratory that serves a greater purpose."

European Truck Racing now runs on a fully sustainable biodiesel.

FIA pays tribute to Mansour Ojjeh

The FIA Family was saddened to hear of the passing of Mansour Ojjeh on June 6, at the age of 68. A major figure in Formula 1 from the late 1970s, Ojjeh was most associated with the McLaren team and played a major role in the development of the race team and the companies of the McLaren Group from the mid-1980s.

FIA President Jean Todt said: "Deeply saddened by the passing of my friend Mansour Ojjeh, one of F1's legends. He achieved huge success with Williams and McLaren. He was unique and a real gentleman. He will be truly missed and will always be remembered."

Formula 1 President and CEO Stefano Domenicali added: "I was shocked to hear that our very good friend Mansour passed away. He was someone with incredible talent, passion and energy and was a giant of our sport."

McLaren Racing CEO Zak Brown paid tribute by saying: "Mansour has been etched into the heart and soul of this team for nearly 40 years and was intrinsic to its success."

Ojjeh was first involved with the Williams team in 1978 through the Techniques d'Avant Garde (TAG) company established by his father Akram. Ojjeh later transferred his interest to McLaren and helped the team to world titles in 1984 after which Ojjeh became a major shareholder in the company.

A serial entrepreneur, Ojjeh also continued to develop the TAG brand. He was also deeply involved in the expansion of McLaren beyond the race track through McLaren Applied Technologies and McLaren Automotive.

Williams and McLaren F1 legend Mansour Ojjeh who passed away in June.

PURE ETCR to become eTouring Car World Cup from 2022

PURE ETCR will be upgraded to the FIA eTouring Car World Cup from 2022, making it the first world-level electric touring car competition.

A new long-term agreement between the FIA and championship promoter Eurosport Events has been signed for the series to run alongside the World Touring Car Cup for primarily combustion-engine TCR cars, according to FIA Touring Car Commission President Alan Gow.

"It is a great pleasure to see the FIA family of touring car competitions further broadened with the addition of the FIA eTouring Car World Cup," he said. "It's the ideal scenario for FIA-sanctioned touring cars to have the traditional combustion-engined WTCR coexist with a new all-electric competition utilising an innovative format."

Peter Bayer, FIA Secretary General for Sport, believes that Eurosport Events, which has a long history of promoting touring car racing, along with PURE ETCR originator WSC Technology can deliver the ground-breaking series under the FIA banner.

"I'm pleased to witness the growth of the FIA's portfolio of motor sport discipline by the addition of a new and exciting competition that the FIA eTouring Car World Cup will surely turn out to be," he said. "This new concept is sustainable, relevant to manufacturers and fans, and the innovative format guarantees action-packed events."

Electric touring cars will race alongside combustion-engined rivals as part of the new FIA e-Touring Car World Cup.

Motor sport mourns passing of Le Mans winner Jean-Pierre Jaussaud

Two-time Le Mans 24 Hours winner Jean-Pierre Jaussaud has died aged 84 after a short illness.

The Frenchman claimed his Le Mans victories in 1978 alongside Didier Pironi at one of Alpine-Renault team's A442B cars and in 1980 with Jean Rondeau aboard one of his co-driver's M379 coupes.

"Jean-Pierre Jaussaud, a great racing driver who excelled in F2 and F3, who twice won the 24 hours of Le Mans and marked its time has unfortunately left us. Motor sport enthusiasts pay tribute to him. All my thoughts to his family and loved ones," said FIA President Jean Todt.

Jaussaud took part in a total of 13 Le Mans between 1966 and 1983, all bar two at the wheel of French-built machines from Matra, Alpine and Rondeau's team.

The French racer suffered a heart attack last month while at Le Mans

and had been in hospital in his home city of Caen.

Jaussaud began his motor sport career in karting before moving to Formula 3 in 1964. He finished third in the championship and was signed by Matra for the following campaign in which he finished as runner-up.

He made his Le Mans debut in 1966 with Matra but continued to race in F3, eventually winning the French title in 1970. He moved to Formula 2 full-time scoring a number of wins over the following years before returning to Le Mans in 1973.

Ferrari achieves highest level of FIA Environmental Accreditation

Ferrari has been awarded three stars by the FIA Environmental Accreditation Programme, the highest level that exhibits the best practices in environmental sustainability.

Introduced to help those in motor sport and the automotive sector measure and enhance their environmental performance by an independent certification process, the FIA programme is based on the existing best practices defined by the International Organization for Standardization (ISO).

Ferrari was previously awarded an ISO 14001 in 2001 with a renewal in 2016 to comply with the latest ISO 14001:2015 standards, and has continued to press forward to achieve the FIA three-star rating, the highest level of accreditation.

By 2020 the company had achieved its goal of reducing the CO2 emissions of its European fleet by an estimated 35 per cent compared to 2007 levels. Ferrari is now turning its attention to becoming a carbon-neutral company within the decade, which includes a series of actions aimed at reducing greenhouse gas emissions produced and offsetting residual ones.

"Formula 1 has now reached a very high technological level in terms of power unit efficiency, and we are working hard alongside the FIA, Formula 1 and the other car manufacturers involved in defining the regulatory framework for the future, with the aim of transferring the best on-track solutions onto road-going cars, a fundamental component in Ferrari's DNA," said Mattia Binotto, Scuderia Ferrari Mission Winnow Managing Director and Team Principal.

Ferrari is aiming to become a carbon-neutral company within a decade.

All-indigenous team drives diversity in Australia's Supercar Championship

An all-indigenous team of Australian youngsters is helping to drive awareness of the need for diversity in motor sport through the Racing Together programme, which seeks to involve Aboriginal and Torres Straits Islander youths. And the team and the programme recently made a splash at the Indigenous Round of the Repco Supercars Championship held at Darwin's Hidden Valley circuit in June.

Racing Together, which was launched last year by FIA World Motor Sport Council member and FIA Environmental Delegate Garry Connelly and his wife Monique, is designed to identify and assist suitable candidates of both genders in the 12 to 16-year age group, providing them with an opportunity to pursue a career in motor sport as either a driver or a race team member.

Ahead of the round at Hidden Valley, the Racing Together team announced a new partnership with domestic energy company Viva Energy. Over the course of a three-year partnership, more than 130 participants will receive two days of intensive training in advanced driving, motor sport racing, well-being, self-esteem and STEM subjects.

Each year, 10 participants will be chosen to form a race team. With financial support from Viva Energy, Racing Together will seek to train, mentor and support indigenous youths to seek careers or engagement in the Supercar category.

"We started Racing Together late last year with tentative steps, but it has flourished quickly thanks to the support of many in the motor sport and indigenous communities," said Connelly of the initiative.

"We have already put a car on track, run by our first group of 10 indigenous teenage girls and boys, for two meetings in the Queensland Hyundai Excel championship.

"The new partnership with Viva Energy will enable a significant boost to our activities," he added. "Viva Energy will help us train more than 130 young people in all aspects of motor sport participation on- and off-track, and also mentor them in important personal matters such as education, health and well-being, and road safety."

For the weekend in Darwin, the Shell V Power Racing Team, through its Chairman and CEO Ryan Story who is also a director of Racing Together, invited the indigenous team's driver Braedyn Cidoni to design the livery of its two Ford Mustangs.

Inspired by aboriginal artist Alison Millcock, Cidoni created a design that had meaning to both the rich indigenous culture of Australia and environmental awareness for the world as a whole.

"I did some research and found the work of Alison [Millcock] to be quite inspiring," said Cidoni. "I thought I could adapt that to make the design.

The Racing Together team have taken part in two Queensland Hyundai Excel championship rounds.

The main goal behind both Ford Mustangs and our Excel entry was to have representation of animals which have good stories behind them. The turtles, for example, are there to spread awareness of the life we have and about littering – especially with issues surrounding plastic. I also thought it would be good to add a snake into the design to showcase the fierceness of motor sport."

As well as bringing his artistic skills to the top level of Supercars, Cidoni also delivered for the Racing Together team in Darwin, piloting his Hyundai Excel to sixth place in the Sedans Combined Category.

And Racing Together founder Connelly was thrilled with Supercars' indigenous round and the team's performance.

"It was a fantastic celebration of indigenous culture, so congratulations to Supercars and all the teams for producing a spectacular show," he said. "I am very proud of Braedyn and the whole Racing Together team for what they were able to achieve during the weekend. The liveries looked wonderful and the team continues to improve their performances when it comes to the racing.

"We don't really have an indigenous presence in Australian motor sport," Connelly added. "Three per cent of the Australian population is indigenous but I struggled to find an indigenous person who was employed in the Australian motor sport industry. That needed to change."

Supercar drivers show their support at the Darwin round. Below right: Racing Together founder Garry Connelly with Braedyn Cidoni.

DAVID LAPPARTIENT:

Sharing is caring 01

The President of the Union Cycliste Internationale, explains why the UCI is partnering with the FIA to raise awareness of the need to share the road safely

Cycling is an inherently safe and healthy activity, but we need to maximise conditions on our roads to ensure cyclists can feel safer and experience the benefits of this active mode of travel. According to the World Health Organization, every year 41,000 cyclists die and millions more are injured in road traffic-related crashes worldwide. We need to decrease these figures.

Governments can play a significant role in enhancing safety by creating segregated bike lanes with well-designed and safe intersections, lowering speed limits, promoting legislation on safe passing distances and focusing on behavioural measures to encourage a culture of respect between road users.

This is why the UCI is delighted to partner with the FIA on their very successful and impactful #3500LIVES campaign. Ensuring that cyclists of all ages can travel safely on all roads, and understand the importance of mutual respect between all road users, is of utmost importance to the UCI, especially during a time when bicycles are booming as a healthy activity and means of transport.

Our key objective with the #3500LIVES Share the Road rule is to raise awareness and build a culture of respect amongst all types of road users, and especially between cyclists and motorists. This comes at a very important moment in time, further to the United Nations proclaiming 2021-2030 as the 2nd Decade of Action for Road Safety, with its objective to prevent 50 per cent of road traffic deaths and injuries. This campaign is therefore a key tool to inspire all generations to adopt safe behaviours via two highly respected and energetic sport role models, Julian Alaphilippe and Mick Schumacher.

It's very gratifying to me to see our UCI World Road Champion involved in this campaign alongside Formula 1 driver Mick Schumacher. As a proud UCI Road World Champion, Julian can play an important part as an ambassador and role model for the sport, inspiring younger generations to discover the joys and benefits of cycling, but also understanding the key skills and behaviours required to stay safe on the road.

Sharing the road means drivers should be aware of and respect the fact that they are sharing the roads with more vulnerable users. As a result, and to ensure the safety of all users, and in particular cyclists, they should respect the speed limits, slow down in reduced visibility conditions, signal their intentions in advance and keep safe passing distances when overtaking cyclists on the road.

Speaking of risks, the speed of motorised traffic is one of the most important risk factors for cyclists; according to studies, the likelihood of a fatal injury to a cyclist increases 11 times with vehicle speeds above 64.4km/h and 16 times at 80.5km/h. This ties into the 2021 theme for UN Road Safety Week – #StreetsForLife – calling on policy makers to act for low-speed streets worldwide in areas where people walk, cycle, live and play.

That respect should of course be reciprocal and cyclists also need to be aware that they are sharing the road with other types of users, and must set an example in terms of obeying circulation rules. To reduce road traffic risks, they need to make sure they are visible, for instance equipping their bike with lights for low-visibility conditions, while signalling intentions in advance.

Wearing a helmet has also been proven to reduce the severity of head injuries at the time of collisions. However, early road safety education is key – we need to keep children safe on the roads, helping them develop appropriate skills and behaviours, confidence, and the capacity to identify risks they may encounter while riding.

Understanding safe behaviour on the road is particularly important when we are in a time of massive growth in leisure cycling. While the coronavirus pandemic created certain challenges for cycling events in 2020, the world also witnessed a global cycling boom, with populations taking up cycling as a healthy activity and means of transport while respecting social distancing measures in place. From the creation of pop-up bike lanes to record bike sales in cities around the world, the benefits of the bicycle were widely promoted and enhanced, and the UCI is delighted to keep developing partnerships and collaborative campaigns with other international organisations – such as the FIA – to maintain this positive momentum into the future. ◂

UCI President David Lappartient says campigns such as #3500LIVES are key to promoting respect between road users.

'It's very gratifying to see our UCI World Road Champion in this campaign'

CAIO COLLET:

02

All or nothing

TEXT / JULIANNE CERASOLI

From the moment he jumped on a last-minute flight from Brazil to launch his international racing career, *Caio Collet* has been at full speed. And knowing that motor sport can be a cruel mistress, that's just the way he likes it

There was some rush when Caio Collet left Brazil for his first karting race in Europe. His then-manager, 1995 Karting World Champion Gastão Fráguas, had found an event which coincided with the driver's 13th birthday week, making the young hopeful old enough to compete. The haste wasn't in vain. Caio was a genuine talent, and a top prospect in Brazil, but he needed as much experience as possible in Europe if he was to be taken seriously. Collet hurriedly packed a bag, raced to the airport, and hasn't stopped racing since.

Collet's talent caught the eye of Nicolas Todt, whose Allroad Management company is responsible for Charles Leclerc, Felipe Massa and rising stars such as Marcus Armstrong. Collet joined the stable and following a strong French Formula 4 title victory in 2018 that featured seven wins from 20 races, he was drafted into the Renault Academy, now the Alpine Academy. In 2019, Collet was the top rookie in the Formula Renault Eurocup series, finishing fifth in the championship. Last year he completed the series as runner-up and this year the 19-year-old is racing in the FIA Formula 3 Championship with MP Motorsport.

From the outside, it all seems to be a very well-planned and smooth path. For him, it's all part of a daily battle for survival in the sport, especially now he has fellow Alpine Academy driver Victor Martins as his team-mate. Collet's mindset is quite clear: only one of them will remain with the French outfit at the end of the year and staying in the Alpine programme is key to his career in Europe.

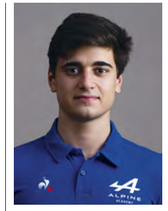
"Since I started with formula racing it has always been the same: all or nothing. Even before I started working with Renault, Nicolas [Todt] said to me: 'Either you win, or I don't know what I am going to do with you'. Although our relationship is good, I understand that, in the end, this is a business. I am already used to this kind of pressure, so I keep this all-or-nothing mentality because that's how our sport works."

Like most drivers who had to move from their home country to compete, Collet has more than racing to worry about. Separated from family and friends in Brazil for the past five years, he tries to stay in touch with the essence of who he is.

"Wherever I go, I try to be myself, my own Brazilian self. What I don't want is to become European," he laughs. "Of course, it's nice to be here and learn things, but I also try to take the Brazilian way everywhere I go. Otherwise my family would find me weird when I'm back!"

On the other hand, not being around his family – who he sees a maximum of three times a year when he is back in his homeland – has made him grow up faster and become an 'adviser' to young Brazilians who are also leaving their families to pursue their dreams in Europe, including an old friend from his school days, Eduardo Barrichello, who had just started in the Formula Regional European Championship by Alpine, certified by the FIA. Collet had to give the son of former F1 driver Rubens some real life tips. "I went to see him and realised he was in the same situation I was when I was 15. He had nothing: his waste bin was a cardboard box, he had no cutlery, glasses, or plates. It was cool to help him out, and he did need it!"

> **'I keep this all-or-nothing mentality because that's how our sport works'**
>
> CAIO COLLET



Brazil's Caio Collet is determined to maintain his place in the Alpine Academy line-up.

Currently living in Oxford with fellow Alpine Academy member Oscar Piastri, who won last year's F3 title and is now fighting for the championship in F2, Collet sees the Australian as a good example of someone who is navigating the FIA's pathway to Formula 1 in the right way.

"We've lived and trained together since 2020, so I've been able to see his success closely, the way he works," he says. "His family is also far away and he had to learn how to live on his own in the same way I did. We are very similar and that's why we get on."

RISKS AND OPPORTUNITY

Speaking with Collet, it's noticeable how the drivers around him have become, in a way, family. And one who warmly welcomed the once-shy Brazilian to the Renault/Alpine programme was Anthoine Hubert, whose sudden loss in a crash at Spa-Francorchamps in 2019 marked the young driver deeply.

"One week before the accident, we were all together at a cycling training camp in France, we were sharing a room... For me, it was impossible that something like that could happen. I felt it was riskier to ride 700km on a bike in France than to race. I was racing in Eurocup and I remember it was one of the saddest days of my life. Of course, once you are in the car, you forget about everything else, but those moments just before getting in the car and after the race were tough. Since then it has made me more aware of the risks, but also more thankful for the opportunity I have got and to be where I am today."

Collet got his 2021 Formula 3 campaign off to a promising start with third place in Race 1 at Barcelona.

When Hubert's fatal crash occurred, Collet was competing at the Nürburgring, and finished third in a race won by Piastri. It was the beginning of a good run for the Brazilian, with seven top-four finishes from nine races, which continued with five wins in 2020, one of them in front of the F1 paddock at Imola: exposure he will have to get used to this year in F3.

"To be honest, Imola last year and Barcelona this year were the only F1 races in my life I haven't followed. In Imola, once I finished my weekend, I went trackside to see the cars and I had to ask around to know who was in front. I was so focused on my work I had no clue what was going on. And I think it's going to be like this for the whole season."

He is right not to think about F1 at the moment: Alpine's academy is full of young talents waiting for a chance, with three strong drivers in F2 (Piastri, Guanyu Zhou and Christian Lundgaard), plus Caio and Martins in F3. "I still have a lot of work to do to be in the front of this queue. First, I need to have good results in F3 and try to fight for the title and, once I get to the top of the ladder, then I'll start thinking about the next step."

Focused on his campaign with MP Motorsport, which started with a podium in Barcelona in May, Collet has already identified the main development focus this season: his qualifying pace. "Qualifying is the area I need to work on the most. To take everything out of the car in one single lap after doing one practice session and also after the F1 cars use the track and it changes, it's not easy. I think this will come with experience. I'm calm about it, although it's an area I know I have to work on. As for the rest, my tyre management was quite good during the race and I'm adapting well to the car."

It doesn't hurt that Collet feels ever-closer to the F1 world as he climbs the ladder with Alpine, as he has been given more access to information that he didn't have before.

"The closer you get to F1, the more information is given to prepare you," he says. "This year, we have an F1 engineer with us and, during the Azerbaijan GP, for example, I was at the factory watching the race with the engineers, understanding how they speak with the drivers and how they work. But at the same time the pressure to do well and get the results needed to stay in the programme gets bigger as well."

Five years after that hasty flight to his first European karting event the race goes on. But Caio Collet has not come this far to lose the opportunity. All or nothing.

Atech is the first company to produce a seat to the new 8855-2021 standard for use across a range of motor sport categories.

TEXT / MARC CUTLER

STRENGTH IN NUMBERS

03 With an update to the most widely-used seat standard in closed-cockpit motor sport, the FIA has produced the strongest and most optimised seat design for safety while keeping it affordable for competitors

You might not know it by the numbers, but the 8855-seat standard is the most popular race seat in the world. It is used across GT, Touring, Rally, Rally CrossRallycross and Cross Country categories with thousands produced every year.

This is why the FIA has focused on delivering an update to the seat that will make it even stronger and optimise the seat design for safety, whilst keeping the price low for competitors.

The new FIA Standard 8855-2021 is a significant improvement on 8855-1999 which was introduced over 20 years ago. Even though these seats provide solid levels of safety for competitors, there was always room for improvement with new materials, new manufacturing techniques and design ideas.

This is why the 8855-2021 project came about, as it sets out safety performance requirements which are considerably stronger and ensure improved strength during rear and lateral impacts, together with more extensive support in lateral impacts, according to FIA Head of Competitor & Road User Safety, Nuno Costa.

"It's important that we have lateral support to the pelvis, shoulder and to the head," says Costa. "The 8855-1999 standard didn't require lateral support for the shoulder and head, and from what we know now, it is very important that we improved the standard."

The new requirements bring it closer in safety performance and design requirements to the elite FIA Standard 8862-2009 seat used in top-tier motor sport categories such as the Rally 1 cars in the World Rally Championship, but at a much more affordable price.

"We knew that there were new materials and manufacturing techniques to produce seats and based on the experience that we have on other projects. For example, for the FIA 8859-2015 premium helmet standard we managed to get quite close in terms of safety performance to the most advanced helmet standard used in the top-tier motor sport championships such as F1, with around 80 per cnt of safety performance for 20 per cent of the cost. We wanted to follow exactly the same philosophy," says Costa.

The research was driven by the FIA Safety Research Group with support from R&D technology company D2H Advanced Technologies, which involved undertaking advanced materials analysis and aligning with the testing protocols of the FIA's 8855 and 8862-rate seats.

"Proactively improving safety standards in motor sport is crucial," says D2H engineering director, Matthew Hicks. "It is an area that can benefit enormously from advanced materials understanding and evolving manufacturing techniques. We are delighted to have been able to deliver a lower-cost seat that provides a significant improvement in safety in all conditions within national motor sport around the world." ▸

'We are delighted to deliver a low-cost seat that provides such a significant improvement in safety'

MATTHEW HICKS, ENGINEERING DIRECTOR, D2H

Seats based on the new 8855-2021 standard offer 60 per-cent of the safety performance of the 8862 seats, a remarkable increase over the previous design, but crucially at 15 per-cent of the cost at just €500. This means the increased level of safety will be affordable for hundreds of thousands of teams and competitors worldwide.

TESTING STRENGTH

Most of the work to come up with the standard was done through simulations by D2H, which accounted for different types of sensitivities in seat design such as a change in materials, an increase in weight, and geometry when trying to optimise the seat for the safety performance targets.

Once this was done, the next key aspect of the development was to verify the digital analysis done by D2H using physical testing at FIA-approved test houses. The FIA Safety Department and D2H conducted quasi-static tests where forces are applied to critical areas of the seat shell by controlled loading arms, to simulate the stresses of a high-speed impact.

"In terms of safety benefit, the big difference is not only the improvement in safety performance and of the loads that the seat can cope with, but in the design requirements," explains Costa. "The biggest improvement is ensuring that we can provide this lateral support to the pelvis, torso and head, and keeping it all aligned which is very important."

The strength of the seat is judged on the ability of the shell to withstand an impact both to the rear and laterally, in this case protecting a competitor in the event of an accident up to 42G. The total forces inflicted on the seats are around two tonnes to core areas that are crucial to crash safety: lumbar, centre of the back and head/neck, and to the sides, including the hips/pelvis region, shoulder and to the side of the head.

"We have introduced several other tests, such as flammability and that is another big difference in relation to the 8855," says Costa. "There are some requirements such as the seat belt slots, no protrusion inside the seat to avoid injuries, we also include energy absorbing foam requirements for the head support where we have minimum areas for thickness and material, which is checked by the lab."

"Rather than start with existing specifications, D2H undertook extensive material and design testing," explains Hicks. "This enabled us to find the right balance between strength and cost, while emphasising the importance of optimising the fibre laying-up configuration in achieving good test results."

D2H Advanced Technologies developed the new standard with safety performance targets in mind.

INDUSTRY STANDARD

All the design and safety performance requirements for the new standard were discussed and agreed with the FIA's Industry Working Group, which is made of motor sport suppliers and equipment manufacturers who work together to help develop future FIA standards and regulations.

Competitor safety equipment company Atech is the first to make a seat that conforms to the new standard, with further manufacturers set to follow suit. The seats will be issued with a 10-year FIA validity compared to the five-year lifespan under the 8855-1999 standard.

From this year competitors that use 8855-1999 can upgrade their seat to 8855-2021 standard, with the FIA aiming to have all its championships that use the 8855-1999 standard to switch to the new one by 2029.

There has been consultation between the FIA Safety, Technical and Sporting Departments and respective FIA Commissions in discussing the implementation plan of the new seat in categories not using the 8862-2009 seats.

Manufacturers are expected to sell tens of thousands of seats per-year as the FIA starts its implementation plan, which sees Rally3, Rally4, Rally5 and RGT cars homologated from 2022, followed by GT3 cars homologated before 1.1.2016 and T1 category cars in Cross Country in 2023, and then T2 to follow suit in 2024.

From 2027 onwards Rally categories, not using 8862-2009 seats, will only accept this seat, and from 2029, all the cars participating in a competition inscribed in the FIA international calendar will need to replace 8855-1999 by a 8855-2021 seat with the exception of some historical cars that may be exempt due to the size increase of the seat not being compatible with some chassis.

This is the main reason why the existing 8855-1999 standard will not be withdrawn, as the FIA and National Sporting Authorities are aware that certain design requirements of the new seats mean it will not be possible to mandate it in every model of competition car. There are also plans to allow seat manufacturers to homologate the same model of seat in different sizes, based on the worst case, in order to make available to drivers seats of different dimensions.

"We have a method whereby we can homologate other seats based on the design requirements and we think this will have a big effect on the market because it will enable the same model to be produced in different sizes, as now there is no testing cost associated with testing smaller seats," explains Costa. "Obviously having a higher range of seats on the market for drivers could have an overall safety effect."

The combination of stringent testing, better design requirements, and optimised safety ensures that drivers at every level of closed-cockpit motor sport are being seated properly.

'Having a higher range of seats on the market could have an overall safety effect'

NUNO COSTA, FIA HEAD OF COMPETITOR & ROAD USER SAFETY DIRECTOR

04

Max Mosley 1940-2021

Former FIA President *Max Mosley*, who passed away at the end of May, was a pioneer for safety on the race track and the road, leaving a legacy of enormous positive change. The FIA salutes his achievements

As FIA President, Max Mosley was responsible for many key advances in road and track safety.

The FIA community was saddened to learn of the passing of former president Max Mosley on May 24, 2021 at the age of 81. The work he undertook during his 16-year presidency, detailed below, leaves an indelible mark on the world of motor sport and mobility. His passion and commitment for improving safety both on the race track and, crucially, in transferring that work to practical solutions on the road, has had a positive effect on countless lives around the world. The FIA continues to strive for improvements in safety, remaining committed to ensuring a prosperous future across the world of motor sport, and pays tribute and thanks to the contributions made by Mr Mosley.

FIA President Jean Todt said: "It is with great sadness that we learned of Max Mosley's death after a long illness. He leaves an impressive lasting impression on the FIA family, motor sport and mobility.

"In Formula 1 he was the architect of the text that led to the signing in 1981 of the first Concorde Agreement. As President of the FIA from 1993 to 2009, he largely contributed to improving safety in racing. He reacted strongly to the tragedy of the 1994 Imola weekend in which Roland Ratzenberger and Ayrton Senna lost their lives. He created and chaired the Formula One Safety Commission and, under his leadership, the safety standards of racing cars and circuits were significantly improved, and the number of serious accidents was greatly reduced.

"He successfully transferred these efforts from the track to the road to improve road safety with the European New Car Assessment Programme (EURO NCAP), which he initiated and chaired from 1996 to 2004, and later through the creation of the FIA Foundation, the FIA Academy and the FIA Institute for Motor Sport Safety.

"As President of the FIA and Special Envoy of the United Nations Secretary General for Road Safety, I am aware of what he has accomplished and the perspectives he outlined."

Max Mosley was born in London in 1940 and attended schools in Britain, France and Germany. He went on to study at Oxford University, where he read physics and was elected Secretary of the Oxford Union debating society. He later trained as a lawyer and became a barrister specialising in patent and trademark law.

In his leisure time, however, Mosley spent much of his youth racing cars, first in sports cars and then later in Formula 2, driving a Brabham and Lotus. He retired from racing in 1969 to co-found March Engineering, which quickly became one of the world's leading racing car manufacturers. Mosley dealt with legal and commercial matters for the company between 1969 and 1977.

SAFETY DRIVE

In the mid-1970s, he became the official legal adviser to the Formula One Constructors' Association (FOCA), the body that represented Formula One constructors. In this role he drew up the first Concorde Agreement, settling a long-standing dispute between FOCA and the Fédération Internationale du Sport Automobile (FISA), the then-governing body of F1. In 1986, Mosley was elected President of the Manufacturers' Commission of FISA and represented the world's motor industry on the World Motor Sport Council. He was later elected FISA President in 1991.

Having worked closely together to plan the restructuring of the FIA, Jean-Marie Balestre and Mosley had agreed on the latter's candidature for the FIA presidency when the Frenchman stood down in June 1993. It soon became clear that Mosley had a majority support and he was elected president unopposed.

In this role, Mosley pledged that the FIA should make a difference in the world outside motor racing, and set about promoting increased road safety and the use of green technology.

In his first year Mosley set up the FIA Brussels office, giving motor sport and 40 million members of the FIA's motoring organisations in European Union countries an effective voice in Brussels for the first time. In the same year, he was elected Honorary President of the European Parliament Automobile Users' Intergroup and he formed the Expert Advisory Safety Committee, which brought together leading safety experts in motor sport to research and find solutions for the major safety issues of the time.

Those issues came to a head in 1994 during the San Marino Grand Prix, in which triple world champion Ayrton Senna and Austrian driver Roland Ratzenberger were both killed in track accidents. In the wake of these deaths, Mosley instituted the widespread reform of safety in the sport.

Two years later, in 1996, Mosley led the FIA's successful campaign to modernise and strengthen EU crash test standards for the first time since 1974, achieved by proposing amendments to the European Parliament requiring the offset frontal test and 300mm clearance side-impact test.

He also promoted the European New Car Assessment Programme (Euro NCAP), the independent crash-test organisation described by the European Commission as the most cost-effective road safety initiative of the last 20 years. Mosley remained Chairman of Euro NCAP from 1996 until 2004. In late '96, he formed and served as the first Chairman of the Formula One Safety Commission, which focused on the development of F1 circuit safety.

'Under his leadership, the safety standards of racing cars and circuits were significantly improved'

JEAN TODT, FIA PRESIDENT

Mosley enjoyed an early racing career before moving to oversee matters on the track. This is Monaco in 2007.

In 1997 he led a successful campaign for the FIA to be recognised by the International Olympic Committee. A few years later, he launched Formula Zero, a strategy for reducing fatalities and injuries on track and road. The policy document identified the safety synergies between motor sport and motoring, and outlined an approach to road safety involving a zero-tolerance approach to deaths or injuries.

In 2002, Mosley proposed the establishment of the FIA Foundation and the FIA Academy. He served as a Trustee of the Foundation, a charity focusing on promoting road safety, environmental protection and motor sport safety worldwide. The FIA Academy was created to develop important projects to stimulate research and build the necessary framework to promote road safety and protect the environment.

Mosley also proposed the establishment of the FIA Institute for Motor Sport Safety in 2004 in order to develop and improve safety measures and sustainability across all areas of motor sport, from junior racing to top-level championships.

He was re-elected as FIA President three times – in 1997, 2001 and 2005 – each time unopposed. When he eventually decided to stand down in 2009, Mosley endorsed Jean Todt as his successor and, like many before him, was named Honorary President of the FIA shortly after.

Mosley received many government and industry awards, most notably in 2006 the *Chevalier de l'Ordre National de la Légion d'Honneur* – France's highest order of merit, in recognition of his great contribution to road safety and motor sport.

DOSSIER

/

The electrifying journey

05

CHARGING FORWARD

While automotive manufacturers have picked up pace in the race to go electric, there are still issues surrounding EV infrastructure and the disposal of car batteries. Plans are afoot, however, to smooth the way to an electric mobility future

05

Accelerating transformation

TEXT / BEN BARRY

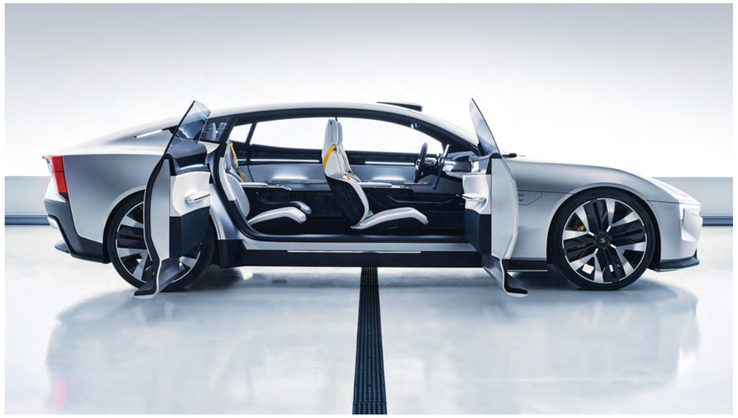
The electrification of mobility has grown steadily, but with companies like Ford, Jaguar and Volvo announcing large-scale shifts away from combustion power the industry has massively accelerated the transformation. AUTO investigates why change has suddenly gathered unstoppable momentum

Electrification is now a near-inevitable end-game for all car manufacturers, as governments worldwide set deadlines for phasing out internal combustion engines, some as early as 2030. But while all car companies are planning for a fully electrified future, and some are rolling out all-electric model lines to progress the transition, a select few have taken the more radical step of switching entire brands to electric well ahead of government zero-emissions mandates. Significantly, all thus far are premium nameplates best known for high-performance petrol engines and/or luxury.

This marks a stark contrast to the pioneering earlier days of EVs, where long-established makers focused on compact, modestly equipped and relatively affordable electric models, including the seminal GM EV1 of 1996 and, more recently, the Nissan Leaf and Renault Zoe – cars with relatively low driving ranges designed primarily for local use.

Challenger brand Tesla shook up the accepted thinking when founder Elon Musk identified a niche at the opposing end of the market: large luxury cars with a premium price aimed at tech-savvy early adopters. ▸

Jaguar's early gamble on EVs has paid off with the award-winning iPace. Below: Ford is spending $1bn on producing EVs at its assembly facility in Cologne, Germany.



Its Model S launched in 2012, caught the establishment off-guard, and last year Tesla sold half-a-million units across all model lines.

Equally important was Tesla's status as a disrupter. It positioned itself as a maker able to think more spontaneously and move faster than legacy car companies, one which wasn't handicapped by their associations with fossil fuels, and its founder made his fortune developing software. To consumers, Tesla had more in common with Apple than Ford, Toyota or GM. That Tesla was based in Silicon Valley rather than Detroit only strengthened the association.

Other start-ups are following the trail blazed by Tesla, including Lucid, Byton and Rivian, but the phenomenon has not passed OEMs by. Now Jaguar and Alpine will both become pure electric brands, while Geely-owned Volvo Cars has launched the standalone Polestar brand with an electrified model-line from its inception.

Each represent quite different case studies, but all are betting on a faster-than-expected market adoption of EVs, recently supercharged during the pandemic – by June 2020, EV sales were up two-thirds year-on-year in Europe as petrol and diesel sales fell a third.

However, the widespread switch to electrification over the coming years means these brands must do more than simply swap internal combustion engines for electric motors in order to be differentiated. Their approach to business, services and mobility is also changing. Felipe Munoz, Senior Analyst at JATO Dynamics, says: "If all brands go electric, there won't be any differences in the medium term. It means proposing more than the powertrain, and finding ways to improve transportation and mobility in cities – autonomous driving is an example. Whoever leads the mobility solution race will make the difference in the future.'"

Polestar might lack the recognition of Alpine and especially Jaguar, but the name relates directly to the motor sport team that won the World Touring Car Championship as Polestar Cyan Racing (now simply Cyan Racing) with Volvo in 2017. It also developed high-performance road cars for Volvo, and was bought outright by Volvo Cars in 2015.

But why not simply switch Volvo to EVs? The parent brand is already a good fit for electrification, having complementary 'caring' associations with safety, family and the environment (its website declares 'climate change is the ultimate safety test'), and indeed it is well advanced on its trajectory to electrification. Volvo is, however, a large corporation to change course, with a reasonably expansive model range to reinvent (if one comparable to Jaguar), associations with the past and a conservative identity.

Reimagining the Polestar name allowed Volvo Cars to bring its own Tesla-style premium challenger brand to market at a suitably profitable price point, while also breaking with Volvo's conservative image and its past as a legacy manufacturer. Munoz sums up the opportunity: "Volvo already has a pure electric model within its line-up, but Volvo is positioned as the premium family brand that focuses on safety, so Polestar is not really the name for EVs, but the one for high-performance EVs that are fun to drive," he explains.

Polestar's own website also embraces the spirit of EV start-ups, with the following mission statement: "The maturity of the automotive industry has become a barrier to innovation. Over time, cars have started to all look the same, feel the same, be the same. We constantly question industry ideas and thinking, challenging ourselves to be better, never accepting mediocrity. We are passionate about design, performance and precision, and obsess over each and every detail. We have no legacy, no ties to the past; we are free to find the right way."

Polestar launched with the Polestar 1 two-door coupe, which features a petrol-electric powertrain and will be produced until the end of 2021. But more recently the Polestar 2 all-electric five-door crossover has been introduced, making history as the first pure electric model from the Volvo Car Group. Every subsequent Polestar will be a pure EV.

Polestar even launched a 100 per cent online buying process, offering cars on a two- or three-year subscription basis to further distance itself from Volvo's more traditional sales and ownership model – although Volvo is also adopting this model for its Recharge range.

Volvo's Polestar brand is leading its charge into the all-electric market.

PARENTAL SUPPORT

Like Polestar, Alpine is rooted in motor sport, but its legacy dates back to 1955 and it counts outright wins at Le Mans and the World Rally Championship on its CV. Always linked to Renault, it was bought by the French manufacturer in 1973. The name had been dormant for 23 years before it returned in 2018 with the Alpine A110 – a small, lightweight sports car, which won plaudits but raised questions as to where Alpine might head next. The answer was one of the industry's rare surprises: a wholesale switch to pure electrification.

Like Polestar's synergy with parent Volvo, Alpine will lean on the resources of the wider Groupe Renault – which was at the vanguard of mainstream EV development with the Renault-Nissan-Mitsubishi alliance. As part of a wider restructure of Renault's product strategy quickly set out by company CEO Luca de Meo following his arrival from Seat in mid-2020, it will also become the umbrella brand for Alpine cars, Renault Sport Cars and Renault Sport Racing, and thus retain its associations with motor sport.

Today's single-model Alpine line-up means the transformation to electrification can be completed far more rapidly than for Renault. It aims to produce a three-car '100 per cent electric dream garage' – a small hot hatch based on the Groupe Renault CMF-B-EV platform, a compact sports crossover on the CMF-EV platform, and a successor to the current Alpine A110, to be developed with Lotus.

Says Munoz: "Until now, electrification has been associated with clean cars that are usually for families. Thanks to Porsche [with the Taycan] and Tesla mostly, we are starting to link EVs to high-performance sporty cars too. If Porsche is succeeding by selling electric cars, I don't see why Alpine can't do it. Its challenge will be keeping weight down when there are heavy batteries."

Jaguar's switch to electrification is arguably a larger role of the dice, given it sold 102,494 new cars in 2020, a year badly disrupted by the pandemic due to factory closures. New Jaguar Land Rover boss Thierry Bolloré arrived from Groupe Renault in 2020, and in February this year announced Jaguar would become an electric-only manufacturer from 2025 under Jaguar Land Rover's Reimagine plan. The rapid transition to EVs was billed not only as a new zero-emissions chapter in Jaguar's history, but as 'a sustainability-rich reimigination of modern luxury, unique customer experiences, and positive societal impact'.

Jaguar is comparable to Alpine and Polestar in forming part of a larger parent brand, in this case Jaguar Land Rover, with which it can pool resources, yet it represents quite a different case study: it is a long-established car maker with brand recognition throughout the world, if also the baggage that entails.

Betting everything on electrification early was sound logic for the British manufacturer given recent context. Jaguar sales have recently accounted for less than a quarter of Jaguar Land Rover's total output. Its traditional saloon and sports car heartlands have been particularly affected in line with market trends, and the success it has found has been with SUVs more comparable to Land Rover products, again mirroring industry-wide trends.

However, it seized the initiative with its iPace, the first premium SUV and winner of the 2019 European Car Of The Year, and the near-silent refinement of electric motors, their effortless performance and the potential to liberate additional interior space than bulkier traditional powertrains are all good fits for an 85-year-old British brand synonymous with 'grace, pace and space'. A fresh start is also an opportunity for Jaguar to push upmarket into Bentley territory rather than competing for higher volumes with premium mainstream brands such as BMW, Mercedes and Audi.

Munoz sums up the challenges: "Jaguar needs to find its position in the market because consumers don't understand what it really is. Is it a premium brand at the same level of Mercedes, BMW and Audi? A semi-luxury brand at the level of Maserati? Or a luxury brand like Bentley? It is not clear. Electrification should be one step but this is secondary while it continues to find its identity."

Ford, too, is making a significant shift. In February the auto giant announced that by mid-2026, 100 per cent of Ford's passenger vehicle range in Europe will be zero-emissions capable, all-electric or plug-in hybrid, and will be completely all-electric by 2030. Similarly, Ford's entire commercial vehicle range will be zero-emissions capable, all-electric or plug-in hybrid by 2024, with two-thirds of Ford's commercial vehicle sales expected to be all-electric or plug-in hybrid by 2030.

"We successfully restructured Ford of Europe and returned to profitability in the fourth quarter of 2020," says Stuart Rowley, President, Ford of Europe. "Now we are charging into an all-electric future in Europe with expressive new vehicles and a world-class connected customer experience."

Ford is spearheading its electric transformation using an iconic model, the Mustang.

Spearheading Ford's advance into an all-electric future is a new $1 billion investment to modernise its vehicle assembly facility in Cologne, Germany – one of its largest manufacturing centres in Europe and the home of Ford of Europe. The company also confirmed that its first European-built, volume all-electric passenger vehicle for European customers will be produced at the facility from 2023, with the potential for a second all-electric vehicle built there under consideration.

"Our announcement to transform our Cologne facility, the home of our operations in Germany for 90 years, is one of the most significant that Ford has made in over a generation. It underlines our commitment to Europe and a modern future with electric vehicles at the heart of our strategy for growth," says Rowley.

Electrification, then, is only part of these brands' reinvention, but with legislation apparently guaranteeing it's a case of when not if all car makers flick the switch on full EV line-ups, those that are transitioning early hope a little Tesla magic will rub off and give them an edge in the race to the future.

05

POWER DEFICIT

There could be a quarter of a billion electric vehicles on the roads by the end of the decade, but where will we charge them? AUTO looks at the infrastructure deficit that threatens to hold back the electric charge...

TEXT / JUSTIN HYNES

Earlier this year a report by the International Energy Agency revealed that by 2030 there could be 230 million electric vehicles on the roads worldwide, providing production stays within global climate targets.

Despite the global automotive industry shrinking by 16 per cent last year due to the pandemic, sales of electric cars soared with a record three million registered in 2020, bringing the global fleet total to more than 10 million. In the first quarter of 2021 EV sales were 2.5 times greater than the same period last year.

All of which is good news, right? But while sustainable mobility looks on course for a game-changing tipping point, the same cannot be said for the infrastructure needed to keep those vehicles moving. And without access to charging the transformation will grind to a halt.

The problem is widespread. A report issued last month by the European Automobile Manufacturers' Association (ACEA) found that despite strong growth, the available charging infrastructure for electric vehicles in the EU still falls far below what is needed and remains unevenly distributed across member states.

The report shows that 70 per cent of all EU charging stations are concentrated in just three countries in Western Europe: the Netherlands (66,665), France (45,751) and Germany (44,538). Together, these countries make up just 23 per cent of the EU's total surface area. By contrast, the other 30 per cent of infrastructure is scattered throughout the remaining 77 per cent of the region. To further illustrate the disparity Romania – roughly six times bigger than the Netherlands – counts only 493 charging points, or 0.2 per cent of the EU total.

According to the ACEA the two-track infrastructure roll-out is developing along the dividing lines between richer EU member states in Western Europe and countries with a lower GDP in Eastern, Central and Southern Europe. Countries with a sizeable land mass but a lower GDP, such as Poland (0.8 per cent of EU chargers) and Spain (3.3 per cent), seem to be left behind.

Indeed, the gap between Germany, the number three country (accounting for 19.9 per cent of all charging points in the EU), and number four Italy (5.8 per cent) is already huge, and the share of chargers goes downhill quickly from there.

"Anyone who wants to buy an electric or fuel cell car depends on having reliable charging or refuelling infrastructure – whether that is at home, at work or on the road," says ACEA Director General, Eric-Mark Huitema. "The time has come for governments across Europe to pick up speed in the race to greener mobility."

Concluding, the ACEA added that according to EU Commission calculations, a further decrease of car CO_2 emissions to -50 per cent in 2030 would require some six million publicly available charging points. With less than 225,000 available today, that translates into a staggering 27-fold increase in less than a decade.

The findings have prompted a response from the bloc, with Frans Timmermans, European Commission vice-president for green policy, admitting that its current target of one million charging points by 2025 is "modest" and that the EU would propose stricter requirements for charging points within smaller geographic proximities later this month.

"We need to make sure all Europeans can travel in an EV and charge it within a reasonable distance of where they live or need to be," he says.

China's development of EV infrastructure has far exceeded many other countries worldwide.

PLAYING CATCH-UP

In the United States the situation is equally fragmented where there are currently about 42,490 public charging EV stations. In comparison, there are about 115,000 gas stations, most of which have multiple pumps. Of that total, just 5,141 are DC fast chargers. There are two types of charge available presently: slower Level 2 chargers, which take about an hour of charging for 10 miles (16km) to 20 miles (32km); and the DC fast chargers that can add 60 to 80 miles of range in a 20-minute charge. Thus, according to the US Energy Department's map of charging stations, there are major gaps in provision in parts of the Midwest and Mountain West. And while manufacturers such as Ford will happily sell you a Mustang Emach-E with a range of 275 miles or 442 kilometres there are vast swathes of middle America where you'll run of power long before you reach a charging station that won't require an overnight stay.

President Joe Biden is stepping in, however, and last month the White House announced that it is to spend $7.5 billion on EV infrastructure, including charging stations, as part of a $1.3 trillion Bipartisan Infrastructure Framework.

The plan aims to build a national network of EV chargers along highways and in rural and disadvantaged communities. The largest investment in EV infrastructure in history, the Bipartisan Infrastructure Framework is targeting the construction of 500,000 EV chargers.

Federal investment will amplify private sector roll-out. One of the major players in the US charging station landscape is Electrify America. The largest open DC fast charging network in the US, it is investing $2 billion over 10 years in Zero Emission Vehicle (ZEV) infrastructure, education and access, and it expects to install or have under development approximately 800 total charging stations with about 3,500 DC fast chargers by December 2021. Elsewhere, General Motors and providers EVgo plan to add more than 2,700 new fast chargers by 2025, a move set to help accelerate widespread electric vehicle adoption. The numbers, while encouraging, remain small.

The situation in less developed markets is even more stark. In India reports indicate that the country will need around 400,000 charging stations to meet the requirements of the two million EVs forecast to be on the country's roads by 2026. However, according to the Society of Manufacturers of Electric Vehicles, there are just 1,800 charging stations in India as of March 2021.

By contrast, China is powering ahead with electric infrastructure development. In April of this year Bloomberg New Energy Finance (BNEF) reported that China now has more than 800,000 publicly available EV charging outlets – up from 516,000 in 2019 and 300,000 in 2018. So rapid is the pace of installation that 284,000 public EV charging outlets were installed in 2020, including 112,000 in December alone – more than the entire US public charging network.

The city of Liuzhou in the south-west Guangxi region of China is the poster child for its rapid adoption of EV use and infrastructure. With a population of four million Liuxhou is home to EV makers SAIC-GM-Wuling Automobile, and the locals have embraced its products with EVs making up 30 per cent of new car sales in the city in 2020 – more than five times the national average. The company's cars have also been China's top seller for some time, outpacing US firm Tesla.

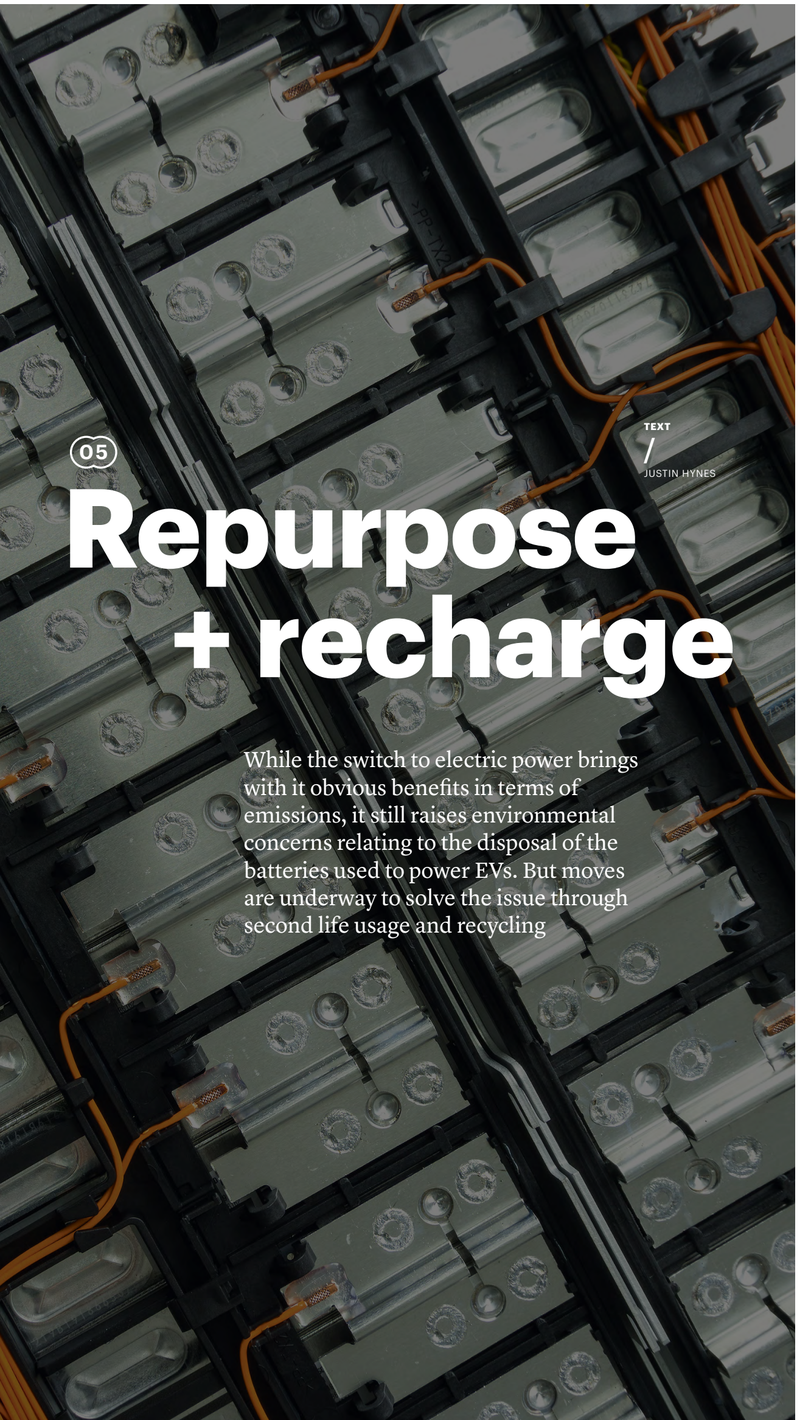
To cope with the demand, Wuling rolled out a range of incentives, including free parking and the provision of charge points. There are now around 30,000 charging outlets in the city, around twice the number in the whole of Italy.

China provides a clear example that unless governments match their zealous pursuit of emissions targets with concrete backing that supports the transformation they are forcing upon the automotive sector, then the goal of sustainable motoring for all will remain the sort of pipe dream beloved of election manifestos and loathed by those whose task it is to untangle the rhetoric and deal in real-world solutions. ◂

An Electrify America solar charger and EVgo charging point – both companies are developing EV infrastructure in the US.

'The time has come for governments to pick up speed in the race to green mobility'

ERIC-MARK HUITEMA, DIRECTOR GENERAL, ACEA



05

Repurpose + recharge

TEXT / JUSTIN HYNES

While the switch to electric power brings with it obvious benefits in terms of emissions, it still raises environmental concerns relating to the disposal of the batteries used to power EVs. But moves are underway to solve the issue through second life usage and recycling

The surge in electric vehicle uptake and the growing commitment of manufacturers to go fully electric in the coming years comes with obvious benefits – drastically reduced emissions, cleaner air and, ostensibly, greater sustainability. But as EVs become the norm the life cycle of such vehicles and their environmental impact comes under greater scrutiny, and a seemingly tough question arises, simply: what happens to all the used batteries?

The answers are not straightforward or one-dimensional, and automotive manufacturers are pursuing a number of different strategies by which to recycle and repurpose batteries that are generally forecast to have a useful life of 10 years but which due to harsh conditions under which they operate – high temperatures, frequent partial cycling – can significantly degrade in half that time.

Japanese manufacturer Nissan is exploring a number of different uses for batteries from its main electric vehicle, the Leaf. One of these involves using batteries that no longer meet the demands of EV use to power the robots that build more Leafs.

Automated guided vehicles, or AGVs, deliver parts to workers in a car factory, working as robotic mail carriers, whizzing around magnetic tracks delivering parts when needed as cars are built.

At Nissan's Oppama plant, south of Tokyo, there are more than 700 AGVs. Around the world the firm uses more than 4,000 AGVs. All require large amounts of power and second-life Leaf batteries have been pressed into service to deliver that energy.

The first-generation Leaf was fitted with a 24-kilowatt-hour battery pack and the model's lithium-ion packs were made up of 48 modules. Around 2013 Nissan's engineers found a way to take three of these modules, repackage them and fit them inside an AGV. In 2020 they took the idea to a new level by using repurposed battery modules, instead of new ones, to power AGVs.

AGVs with the lithium-ion batteries charge faster. Plus, workers no longer need to take out the batteries to plug them in. The AGVs simply stop momentarily at the charging station along their route and incrementally top up at each passing. This automation saves a great deal of time.

The repurposed Leaf batteries also last longer. A lot longer. While lead-acid batteries were typically replaced every year or two, the repurposed Leaf batteries are expected to last seven to eight years. Fewer batteries means less impact on the environment and another step towards being carbon neutral.

The value of the old batteries isn't just to the manufacturer, though. Customers also benefit, as Masashi Matsumoto, who promotes the development of AGVs at Nissan's Production Technology Research and Development Center, says: "When used EV batteries become more valuable, trade-in prices rise. With more ways to use batteries, the overall residual value of the Leaf has increased."

The use of old batteries in its plants represents one stage of Nissan's efforts. The other major application it is putting into practice – along with many other manufacturers – is using batteries that are no longer strong enough to power vehicles but which do have capacity remaining as storage devices for energy supply to buildings.

From left: BMW plans to recycle almost all its EV batteries; old Leaf batteries are powering Nissan factory robots and the Johan Cruijff ArenA in Amsterdam.

In 2018, Nissan, in collaboration with a range of sustainable energy firms, repurposed EV batteries to store energy harvest from the 4,300 solar panels on the roof of the 55,000 capacity Johan Cruijff ArenA, home of Ajax football club.

The energy storage system plays an important role in balancing supply and demand of energy in the arena. The storage system, which combines Eaton power conversion units and the equivalent of 148 Leaf batteries, has a total capacity of 3 megawatt, enough to power several thousand households.

This capacity also means that the energy produced by the 4,200 solar panels on the roof of the arena can also be stored and used optimally. The energy storage system provides back-up power, reduces the use of diesel generators, and provides relief to the energy grid by flattening the peaks that occur during concerts.

FUTURE POWER SOURCES

Renault is also pursuing energy storage solutions for its used batteries. The firm has established two second-life battery programmes with the SmartHubs Project in West Sussex, UK and Advanced Battery Storage in Douai, France – two of the largest projects of their kind in Europe.

The aim of the projects is to bridge the gap between electricity consumption and production in order to increase the share of renewable energy, as well as maintaining the balance between supply and demand on the grid by integrating different energy sources with intermittent production capacities.

The SmartHubs project will see over 1,000 second-life batteries from Renault vehicles used alongside other technologies as part of a local energy system to help provide cleaner, lower-cost energy for use in social housing, transport, infrastructure, private homes and local businesses.

The project involves the installation of several 360 kWh E-STOR systems on industrial and commercial sites, with some linked to solar panels, and EV chargers to help sites reduce energy costs and optimise the use of renewable energy. A large E-STOR Cluster system using around 1,000 second-life batteries to store 14.5 MWh of energy will also be installed. This will rapidly charge and discharge to help balance the electricity network. It will store enough energy to power 1,695 average homes for a full day. The SmartHubs project is one of four UK government-initiated schemes designed to help design the energy systems of the future.

In Douai, the first Advanced Battery Storage unit has been installed at the Renault Georges Besse plant with a capacity to store 50 MWh across several sites. The energy storage systems make it possible to regulate and stabilise the network by charging the batteries when demand is low, then returning the energy contained in these batteries back into the network as soon as demand is high again.

What about batteries than can no longer function as sources of power or as storage devices? At Volkswagen, the manufacturing giant's components division has opened the group's first plant for recycling electric car batteries in Salzgitter, Germany. The aim is to recover valuable raw materials from batteries such as lithium, nickel, manganese and cobalt together with aluminium, copper and plastics, achieving a recycling rate of more than 90 per cent over the long term.

Before a battery is recycled, an analysis determines whether it is still powerful enough to be given a second life in mobile energy storage systems. If not, it is recycled.

> **'We know that recycled battery raw materials are just as efficient as new ones'**
>
> MARK MÖLLER, VW E-MOBILITY DIRECTOR

The CO_2-saving recycling process does not require energy-intensive melting in a blast furnace. The used battery systems are delivered, deep discharged, and dismantled. The individual parts are ground into granules in the shredder and then dried. In addition to aluminium, copper and plastics, the process also yields valuable 'black powder', which contains the important raw materials for batteries such as lithium, nickel, manganese and cobalt, as well as graphite. The separation and processing of the individual substances by hydrometallurgical processes – using water and chemical agents – is subsequently carried out by specialised partners.

"As a consequence, essential components of old battery cells can be used to produce new cathode material," explains Mark Möller, VW Head of the Business Unit Technical Development and E-Mobility: "From research, we know that recycled battery raw materials are just as efficient as new ones. In future, we intend to support our battery cell production with the material we recover. Given that the demand for batteries and the corresponding raw materials will increase drastically, we can put every gram of recycled material to good use."

The CO_2 savings are calculated at approximately 1.3 tonnes per 62 kWh battery manufactured using cathodes made from recycled material and using green electricity.

BMW are seeking similarly high recycling rates, with the German firm recently stating that in the future it will recycle 96 per cent of EV batteries, including graphite and electrolytes. The figure is almost on a par with the lead-acid batteries (99 per cent) in use every day to power small appliances.

With such high recycling rates, there should be no shortage of critical raw materials used in the manufacturer of new batteries, and the environmental impact of EVs will remain relatively low. And in the pursuit of clean and safe mobility for all, that's a clear win.

05

Sharing the road safely

Pedestrians and cyclists are among the world's most vulnerable road users, but a new message for the FIA's #3500LIVES initiative featuring Formula 1 driver *Mick Schumacher* and cycling champion *Julian Alaphilippe* aims to raise awareness of those at risk...

Haas driver Schumacher is also a keen cyclist as part of his F1 training.

World champion cyclist Alaphilippe is very aware of the road safety issue.

'More people are cycling nowadays, and that's a good thing, but road safety is a crucial issue'

JULIAN ALAPHILIPPE, UCI ROAD RACING WORLD CHAMPION

Julian Alaphilippe and Mick Schumacher appear on the same #3500LIVES poster promoting shared road use.

In April of this year at the FIA Formula One Emilia Romagna Grand Prix, the FIA-JCDecaux #3500LIVES Global Road Safety Campaign gathered further momentum with the launch of a new visual that brings together FIA Formula 1 racing driver Mick Schumacher and 2020 UCI Road World Champion Julian Alaphilippe to raise awareness of the need to share the road between different types of users.

Imola has a strong symbolic value for both Ambassadors: Schumacher launched the messaging on the eve of his first European F1 Grand Prix, and it is where Alaphilippe became Road World Champion in 2020 following UCI's decision to organise the finish of last year's championships at Imola's renowned circuit Enzo e Dino Ferrari.

Every day, more than 3,500 people are killed on the world's roads, including 500 children. With the aim of tackling the road safety challenge, the #3500LIVES campaign highlights the role each and every person can play in making roads safer for all users. Since 2017, the campaign has been translated into 33 languages and displayed in over 1,200 towns and cities across more than 80 countries every year, thanks to the support of outdoor advertising company and campaign partner JCDecaux.

The FIA and UCI are working together to address the road safety challenge, particularly by promoting the #3500LIVES Global Road Safety Campaign and raising awareness of the need to share the road between drivers, cyclists and other types of users.

Pedestrians, cyclists and motorcyclists make up 54 per cent of all road traffic deaths, while car occupants account for 29 per cent. The lack of dedicated infrastructure such as bicycle lanes in some countries leaves cyclists vulnerable to impact and injury. In light of the COVID-19 pandemic, more and more people have become reluctant to use public transport and are opting for alternative modes of transport: walking, cycling, motorcycling, using mopeds... thus making the need to share the road even more relevant.

By backing the call to 'Share the Road', Schumacher and Alaphilippe are encouraging all road users to obey the speed limits, slow down in reduced visibility conditions, signal their intentions in advance and keep a safe distance. More specifically, the messaging asks drivers to be aware of bicycle paths and ensure a safe passing distance when overtaking cyclists. The two Ambassadors are also urging cyclists to wear a helmet to make sure they are visible and use bicycle paths when possible.

"When I was approached to join the #3500LIVES campaign, I didn't even think about not saying yes," says Schumacher. "As a professional driver, I feel I have a responsibility to help spread the road safety message, especially among young people. In my preparation routine for my sport, I go cycling very often, so I know first-hand how important it is to share the road. Please watch out for cyclists, motorcyclists and pedestrians when driving. Together, we can save lives."

Alaphilippe, meanwhile, highlighted the huge growth in urban cycling as a mobility in recent times, and the growth in bicycle use since the advent of the global pandemic, as a key driver for greater vigilance.

"More and more people are cycling nowadays, especially in cities, and that's a very good thing," he says. "Road safety is a crucial issue and, as a professional cyclist, I think it's important to take action. That's why I was happy to join the #3500LIVES campaign. I encourage all cyclists to obey the circulation rules, make sure they are visible and pay attention to other road users. I also invite drivers to be aware of bicycle paths and ensure a safe passing distance when overtaking cyclists. It's only if we all respect the rules that we will fight road fatalities."

Schumacher and Alaphilippe join 18 world-renowned #3500LIVES Ambassadors from the worlds of entertainment, motor racing, sport and public life who aim to raise awareness of key risk factors such as speed, alcohol, wearing helmets and seatbelts among other issues. The involvement of the Haas F1 driver and the cycling champion was welcomed by FIA President and the United Nations Secretary-General's Special Envoy for Road Safety, Jean Todt.

"I am really happy that two young and promising Ambassadors like Mick and Julian have joined our FIA-JCDecaux #3500LIVES campaign," says President Todt. "They will help us spread our new road safety message, 'Share the road', symbolised by a cyclist next to a car driver. I think that, in their capacity as role models, they will be able to reach the youths who are particularly affected as road crashes are the main cause of death of five to 29-year-olds. I also warmly thank David Lappartient and the UCI for their strong support. I am confident that together we will contribute to making our roads safer."

David Lappartient, President of the Union Cycliste Internationale (UCI), concurred adding: "The UCI is delighted to partner with the FIA on the #3500LIVES campaign. Ensuring that cyclists of all ages can travel safely on roads, and understand the importance of mutual respect between all road users, is of utmost importance to the UCI, especially during a time where bicycles are booming as a healthy activity and means of transport."

Jean-Charles Decaux, Chairman of the Executive Board and Co-CEO of JCDecaux SA, says: "This campaign with the FIA, the result of four years of joint work, aims to promote the great cause of road safety in order to save as many lives as possible around the world and avoid the pain of the loss of a spouse, a child, a relative, a friend. We tend to talk about 'road victims' as if the roads were to be blamed, whereas nine out of 10 serious accidents have a human cause. Securing the road means securing more than just the road. The COVID-19 pandemic has amplified this reality: public space is shared and mobility is multiple. Raising awareness among drivers means raising awareness among all stakeholders. This new visual will complement existing campaign messages and we are very pleased to help them reach the widest possible audience through our network."

PHOTO CREDIT: SIEGFRIED EGGERS

SCAN AND DISCOVER
Download the free Unitag app at unitag.io/app and scan the code to discover more about #3500LIVES

A PIONEERING RACING ENDEAVOUR

05 A unique team of disabled and able-bodied drivers will take up the Garage 56 entry at this year's Le Mans 24 Hours

TEXT
/
MARC CUTLER

When quadruple amputee Frédéric Sausset was hoisted into his car by mechanics during the 2016 running of the Le Mans 24 Hours, it demonstrated one of the unique aspects of motor racing. It is the only sport in the world where disabled athletes can compete on the same track as everyone else.

Sausset was entered into Le Mans as part of a special entry that is allocated to a team known as 'Garage 56'. Introduced in 2012, this entry is exclusively reserved for innovative concept cars that test future technology or take on pioneering racing endeavours.

In 2021, Sausset is returning by entering his own SRT41 team into the category, the first-ever team with more than one disabled driver, and a disabled boss – Sausset himself. The two disabled drivers were chosen as part of the programme set up by Sausset called "*Un Volant Pour Tous*" (A Steering Wheel for All), which aims to encourage, mentor and coach disabled drivers into top-level motor sport, and most recently fielded entries in the European Le Mans Series (ELMS) season-opener at the Circuit de Catalunya in Spain.

"Back in 2015 when I set myself the challenge to take part in Le Mans, despite a huge handicap and without any experience as a racing driver, everybody thought that I was mad, and that it was an impossible challenge to meet," says Sausset. "In 2018, when I launched my programme for high-performance disabled drivers, I heard similar criticisms. And 15 days ago, we participated in our first ELMS race in Barcelona."

Backed officially by the FIA, Automobile Club de l'Ouest (ACO), and Fédération Française de Sport Automobile, every year the programme will choose 15 candidates from all over the world, test them, and select two or three drivers for a three-year training programme to race at Le Mans. Since launching it has attracted talent including Billy Monger, who had both of his lower legs amputated after an accident during a British Formula 4 race at Donington Park.

Frédéric Sausset, Takuma Aoki, ELMS team-mate Pierre Sancinena, François Hériau and Nigel Bailly at the Barcelona round.

This year, disabled drivers Takuma Aoki and Nigel Bailly are set to drive the #84 Oreca after being chosen as part of a selection day in 2017, which focused on the driving skills of each candidate. ELMS race winner and able-bodied driver François Hériau will complete the line-up.

"In November 2017, I organised a selection day on the Maison Blanche circuit at Le Mans to select drivers for the first session of La Filière Frédéric SAUSSET by SRT41," recalls Sausset. "Using modified SRT41 vehicles, we were able to assess the driving skills of the candidates selected from the applications that had been submitted.

'Safety remains key and, in some ways, we are helping to enhance it'

FRÉDÉRIC SAUSSET

The SRT41 Oreca is specially designed to be easily shared by disabled and able-bodied drivers.

"Nigel won us over with his human qualities. Humility must be key, especially when you are going at over 300km/h, surrounded by the world's elite racing drivers. As for Takuma, our link dates back to an interview he had with Pierre Fillon, during which he expressed his desire to join our programme. We then met at the classic car show, Rétromobile, to draw up an agreement."

MAKING THE GRADE

The next step for Sausset was getting an entry into Garage 56 with his SRT41 team, which isn't as easy as proving you are doing something different in the world of motor sport. In the last five years entries to the category have been rejected because they didn't fulfil the criteria, as cars have to comply with the same safety standards and crash test regulations as the other classes.

Both Aoki and Bailly are paralysed from the waist down, which means the modified LMP2 Oreca 07 Gibson chassis will be driven by them entirely using hand controls on the steering wheel. This includes an accelerator on the steering wheel, then separate levers on the right for the brakes and on the left for the clutch. With Hériau sharing the car, the handicap system is designed to make it easy to switch between disabled and able-bodied drivers.

"First and foremost, adaptation to the needs of drivers with disabilities must ensure utmost safety and be kept as simple as possible to avoid being a cause of breakdowns," says Sausset. "Mindful of this, working alongside ACO and FIA technical teams, by 2018 we developed equipment that makes it possible to rapidly switch between disabled and able-bodied drivers.

"We shall participate in Garage 56 using an innovative car, which leaves very little room to adjust the rules. Safety remains key and, in some ways, we are helping enhance it, mainly thanks to the special marking on our car using blue LED lights, a special logo designed for marshals, and so on."

The logo that Sausset speaks of is a sticker affixed to the side of the car designed by the FIA Disability and Accessibility Commission for all non-ambulant drivers. It helps marshals and race officials identify the cars where the driver may need assistance to extricate themselves and get clear of the vehicle following a crash.

It is the first of its kind in motor sport and part of the ongoing drive to create more opportunities for disabled drivers, something Sausset believes there should be more of across national and international disciplines.

"There are never enough of these races. Obviously national and international federations must strive to integrate young people, from a very early age and from all disciplines, so as to promote this wonderful sport. They must shine more light on it and attract partners, as funding is the greatest obstacle, particularly when you are different.

"It was mainly under the leadership of [FIA] President Jean Todt, Pierre Fillon and Vincent Beaumesnil [ACO] that I was able to carry out these endurance programmes," explains Sausset. "The FIA Disability and Accessibility Commission chaired by Nathalie McGloin helped us in specific matters, and thereafter we had to do a lot of work!"

CONNECTING WITH THE FUTURE OF COMPETITION

05

At every level of sporting activity the FIA is driving youth engagement, bringing new fans, competitors and future personnel to an increasingly global and diverse motor sport industry

TEXT / JUSTIN HYNES

Throughout its history motor sport has thrived on change, not just technologically but also in terms of generational shifts, where the old guard is challenged and established ways are shaken up by youthful influxes of new ideas as well as new and improved levels of performance.

Recognising that a vibrant sporting environment relies on positive change and that a healthy sport needs to attract new generations of enthusiasts and participants, the FIA has championed youth engagement in every sphere of competition, from grass roots participation to seeking out and helping the best young drivers in its major disciplines in order to find the champions of the future.

At the foot of the FIA's pyramid towards the top levels of motor sport lies go-karting, the traditional entry point for young competitors. In recent years the FIA has taken a number of steps to bring karting to a wider audience, and in July the FIA's push to increase engagement with the discipline took another step forward with the adoption by the World Motor Sport Council of a comprehensive FIA Karting Strategy to foster development of the sport.

As part of the strategy four pillars of growth have been identified: improving the promotion of karting to generate the widest possible interest, developing digital karting in line with the current popularity of digital motor sport, broadening the base of the motor sport pyramid through initiatives to attract the general public, and facilitating access to competition through the creation of FIA Karting Regional Cups.

From this FIA Karting Strategy it has been decided to launch two specific projects: Mass Inclusion Initiative – Karting, and the FIA Karting Regional Cups.

The aim of the Mass Inclusion Initiative is to introduce youngsters to the world of motor sport through karting – and to educate them about road safety. The format will be a day of entertainment, with Slaloms for 6–8-year-olds and temporary 300-metre circuits with timing for 8–10-year-olds all powered with electric karts, to be combined with an educational programme.

The Regional Cups will be set up according to the basic principles of the FIA Karting Academy Trophy, including one-design equipment, through collaboration between the ASNs of the same geographical region.

The FIA Karting Regional Cups will involve three categories using karts homologated by the CIK-FIA: Mini for 7-11-year-olds, Junior for 12-to-14-year-olds with the OKJ engine, and Senior for 14-to-18-year-olds with the OK engine. Specific invitation to tender for each category will be launched by the ASNs.

Commenting on the strategy, James Geidel, President of FIA Karting promoter RGMMC Group, says: "This is really exciting. Our whole focus is to be more sustainable, more aware and to increase inclusion and diversity in karting.

"We don't want to create another level on the platform, we want to build a foundation and give children of a young age and from all backgrounds the chance to sit in a go-kart and experience it in a fun environment," he adds. "The second part is creating Regional Cups and this is going to be a global series where people can go into karting at more affordable prices because we know today that one of the biggest barriers is economically. It is extremely expensive to race even at karting level and this is going to give over 100 children per region per year the chance to get on this platform where they can make a career. I think this is going to be a massive game-changer."

In parallel with karting, entry-level motor sport also includes digital motor sport, a space in which the FIA has led the way in recent years.

Established in 2018, the FIA Gran Turismo Championships, presented by Gran Turismo and the FIA, sees competitors globally test their driving skills through the 'Sport' mode of Gran Turismo Sport, with the best drivers given the chance to participate in world-class events such as the World Tours and World Finals.

The FIA Gran Turismo Championships consist of two contests: the Nations Cup, which is decided between countries and territories, and the Manufacturer Series, which is fought between automobile manufacturers.

The 2020 edition of the championships took place during the COVID-19 pandemic and its online nature highlighted the strength of digital motor sport as an emerging discipline. The World Finals took place over three days in December with all competitors participating from home but linked by video to a stunning virtual studio. In total, 36 competitors from 14 different countries battled it out in teams of three for the Manufacturer Series, and 16 competitors from 10 countries raced for Nations Cup glory.

ONLINE OPPORTUNITIES

Digital motor sport has become even more of a driver for youth engagement over the past 18 months as the pandemic forced more and more racing activity online. The popularity of online competition was accelerated through the FIA's #RaceatHome programme.

Mainly intended to support national federations in launching their own digital motor sport series, the programme resulted in a host of national initiatives emerging. In Trinidad & Tobago, no fewer than 60 applicants registered in just three days for the inaugural 2020 TTASA eSports: GT SPORT DIGITAL CUP. Meanwhile, the virtual NACAM Rally Championship – initiated by the Mexican national federation but covering a much larger area – has attracted more than 500 participants from 12 countries in the region.

To build on the potential of digital motor sport the FIA created the FIA Digital Motor Sport Working Group to guide development of the discipline, and in October 2020 an FIA Digital Motor Sport Development Strategy was approved by the World Motor Sport Council. The strategy focuses on a number of key areas including development of a ranking system for competition, the formulation of regulations, the creation of FIA certified titles and of a worldwide single ASN licence.

In the world of rallying, last year the FIA launched the FIA Rally Star project. Supported by the FIA Innovation Fund the global initiative aims to detect, train and develop talented young rally drivers. Through selections organised by National Sporting Authorities, the best young competitors between 17 and 25 years old will eventually be able to join the World Rally Championship, benefiting from a sporting programme set up by the FIA and its partners.

Young talent Maya Weug rose through the FIA Girls on Track initiative to race in F4 as part of the Ferrari Driver Academy.

In order to make these selections widely accessible, two grassroots disciplines will create the framework for these operations: Digital Motorsport, using driving simulators and the FIA Rally Star partner video game, and Motorkhana, which involves manoeuvring a production vehicle through a handling course.

The second phase of the programme will be a tour of six continental finals organised by the FIA in Europe, the Middle East and North Africa, Africa, the Asia-Pacific region, South America and North America. Candidates selected by the ASNs will compete against the clock at the wheel of XC Cross Cars to win one of the seven seats granted: one per continent, plus one for the best woman driver in the world.

This group of seven youngsters will then benefit from an intensive season of training and participation in a minimum of six rallies at the wheel of Rally3 cars. The development programme will identify the four most promising drivers, including at least one female competitor, who will then join the FIA Junior WRC.

Over the following two seasons, these future stars will need to demonstrate that they can compete for victories and then for a title, as a full season in FIA WRC 3 will be the ultimate reward for a FIA Rally Star driver winning the championship.

In March five Georgian drivers made history by becoming the first to progress from national selection to the European Continental Final.

President of the Georgian ASN, Mevlud Meladze, says: "For youths aged 17-26, this is an unprecedented worldwide event, where amateur drivers have a huge opportunity to show themselves, compete in equal conditions, drive identical cars and reveal their driving skills. I want to thank the FIA for this opportunity."

'We want to give young children from all backgrounds the chance to sit in a go-kart'

JAMES GEIDEL, RGMMC GROUP

Perhaps the best-known of the FIA's youth engagement initiatives to date is the FIA Girls on Track – Rising Stars programme. Launched in 2020 as part of a push to find and develop female driving talent, Rising Stars gave female karters aged between 12 and 16 the chance to become a member of Ferrari's elite Driver Academy (FDA). Nominated by ASNs, the top 20 selected girls took part in a shootout at Paul Ricard circuit in the south of France, with the best 12 then participating in two training camps before four finalists travelled to Italy to be tested by the FDA. The inaugural winner, 16-year-old Maya Weug, is now contesting a full Formula 4 Championship season this year as the FDA's first female member.

The success of the first edition recently led to a two-year extension of the FIA's partnership with the FDA, and Ferrari has announced that the initiative will be supported by the Iron Dames project led by Deborah Mayer, the French driver who has competed in the Ferrari Challenge and GT races. Additonally, in collaboration with Ferrari, the programme will provide a development path for junior drivers in karting, as well as the more senior youngsters qualifying to race in Formula 4.

Ferrari Sporting Director Laurent Mekies says: "It is fantastic to see the positive energy that this programme has generated, and we are aware of our responsibilities, together with the FIA, to continue to ensure its growth and to always increase the opportunities for women around the world to engage with motor racing."

The FIA's youth engagement initiatives reach beyond the traditional spheres of motor sport. In 2018, the Federation partnered with the Youth Olympic Games, held in Argentina, at which an FIA Road Safety Exhibition promoted the key safety messages of the FIA/JCDecaux #3500LIVES campaign to youngsters. Additionally, the exhibition featured an Electric Karting Experience demonstration by eight young karters from the local area. The success of the project led to the FIA attending the 2020 Games in Lausanne.

"The Youth Olympic Games are the perfect occasion to reach out to young people, who are among the most vulnerable road users, and raise awareness on road safety," says FIA President Jean Todt. "It is the second time that the FIA has been present at an Olympic event, and I would like to thank the International Olympic Committee and its President Thomas Bach for their support. We must keep working with them on the road safety issue."

The FIA has spread its road safety message through displays at the Youth Olympic Games.

Streets for Life

TEXT / KATE TURNER

05

This year's UN Road Safety Week put the focus on making urban streets safe, green and liveable, starting with 30km/h limits to protect all who use them, especially the most vulnerable

A united call to action to deliver 'Streets for Life' was issued by health, urban, youth and mobility leaders during the UN Global Road Safety Week, placing a global spotlight on the need for greater efforts to save lives on the world's roads.

The Streets for Life campaign demands urban streets that are healthy, green and liveable, with 30km/h speed limits where people and traffic mix. It is the rallying cry to lead action and change, building towards the high-level UN General Assembly meeting next year to address the challenges and opportunities needed to achieve the UN Sustainable Goal target 3.6 to halve road deaths by 2030.

Slow-speed urban streets are healthy as they prevent road traffic deaths and promote physical activity. When streets are safe, people walk and cycle more, and liveable streets can help public spaces build back better from COVID-19. This is also beneficial for the environmental agenda, helping efforts to shift to zero-carbon mobility by reducing car dependency and harmful vehicle emissions that contribute to climate change.

A call to action, developed and supported by the FIA Foundation with global partners and published in *The New York Times*, drew together leading global agencies, NGOs and policymakers as part of a rallying cry to focus on Streets for Life as a core solution to the leading killer of children and young people from the ages of five up to 29. Signatories of the Call to Action included Dr Tedros Adhanom Ghebreyesus, Director-General, World Health Organization; Henrietta Fore, Executive Director, UNICEF; Inger Andersen, Executive Director, UN Environment Programme; Jean Todt, the UN Secretary General's Special Envoy for Road Safety and FIA President; Jayathma Wickramanayake, the UN Secretary General's Envoy on Youth; Ángela María Orozco Gómez, Minister of Transport, Colombia; James Wainaina Macharia, Cabinet Secretary for Transport, Kenya; Lord Robertson, Chairman, FIA Foundation; and Zoleka Mandela, Global Ambassador, Child Health Initiative.

NEW VISION

The UN Week and campaign was highlighted by a series of high-profile events. More than 7,500 people joined the special digital launch event of the week hosted jointly by the FIA Foundation and WHO, and featuring speakers including Michael Bloomberg, Special Envoy on Climate Ambition and Solutions and former New York Mayor; Maimunah Mohd Sharif, Executive Director of UN HABITAT; and Fernando Grande-Marlaska Gómez, Spanish Minister of the Interior. The World Health Organization also hosted a special session on road safety and the Streets for Life campaign as part of its global twice-weekly COVID-19 press conference with Dr Tedros and Zoleka Mandela to highlight the wide-ranging health benefits.

"We need a new vision for creating safe, healthy, green and liveable cities," said Dr Tedros. "Low-speed streets are an important part of that vision. As we recover and rebuild from COVID-19, let's make safer roads for a safer world."

Jagan Chapagain, Secretary General & CEO, International Federation of Red Cross and Red Crescent Societies, said: "Our National Red Cross and Red Crescent Societies are engaged in road safety all over the world. We know that as crash impact speeds rise above 30km/h, injuries to vulnerable road users dramatically worsen. Introducing 30km/h speed limits in locations where vehicles mix with pedestrians and cyclists will save lives and prevent serious injuries. I strongly support this life-saving 'Streets for Life #Love30' campaign."

The Stockholm Declaration, adopted by governments in 2020, had 30km/h as a flagship recommendation in recognition of the critical role low speed can play not only in achieving the 2030 SDG road traffic injury target, but also in enabling many other policy goals. For example, low-speed streets, enabling a shift to walking and cycling, are also essential for building back from COVID-19.

The Streets for Life campaign highlights the benefits of low-speed streets in urban areas to reduce road traffic injury – responsible for 1.35 million deaths each year and the leading global killer of young people – and to deliver co-benefits through greater access to active mobility of improved air quality, climate action and equity.

"As we embark on a global transition to net-zero emissions, a crucial milestone on this journey will be to move to a zero-emissions transport sector," said Inger Andersen, UN Under-Secretary-General and Executive Director of the UN Environment Programme. "Integrated urban spaces which encourage walking and cycling as a form of mobility are a big part of this transition. I welcome the UN's new Streets for Life campaign as an important step to build momentum towards sustainable cities."

Crucially, low-speed streets are achievable worldwide. In May 2021, the Spanish government enacted its legislation for speeds below 30km/h in urban spaces, while in 2020 Tanzania included, among other regulations, setting 30km/h as the default speed limit around schools and other zones with a high number of pedestrians.

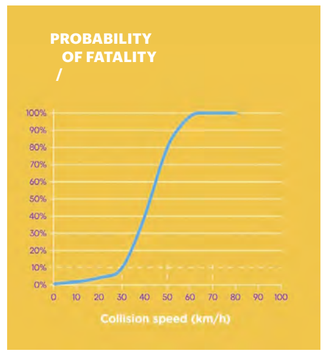
Jean Todt, the UN Secretary General's Special Envoy for Road Safety and FIA President, commented: "Low-speed streets are central to building resilient communities, especially as we journey towards a safer, healthier, greener and more inclusive world. #StreetsForLife contributes to achieving many of the UN Sustainable Development Goals, especially the two targets SDG 3.6 to halve global road deaths and injuries, and 11.2 to provide access to safe, affordable and sustainable transport for all by 2030."

Michelle Yeoh, actor and UNDP Goodwill Ambassador for the Global Goals, added: "We need change. And we are uniting with a clear call to action: Streets for Life. Making the case for low vehicle speeds in communities where children walk, cycle, learn and play. Returning to children their basic right to explore their streets in safety. Because keeping traffic speed below 30km/h near children is the vaccine that can save many thousands of lives. And low speed will encourage zero carbon travel – all of us walking and cycling more – to help clean our air and protect our planet." ◂

The FIA-backed Streets for Life campaign aims to save young lives by lowering urban speed limits.

Campaigners say the 30km/h limit also produces health and climate benefits.

> **'As we recover from COVID-19, let's make safer roads for a safer world'**
>
> DR TEDROS ADHANOM GHEBREYESUS, DIRECTOR-GENERAL, WHO



Advocacy Hub launch: achieving Streets for Life /

A new €15 million Advocacy Hub for safe streets has been launched by the FIA Foundation to support the policy change needed to limit speeds to 30km/h (20mph) on streets where children walk, live and play at the start of the UN Global Road Safety Week.

The Advocacy Hub, based within the Foundation's Child Health Initiative, will support organisations across the world engaged in policy change activities to secure safe, low-speed streets below 30km/h where pedestrians, particularly children and young people, mix with motorised traffic. With an initial fund of €15m over five years, it is intended to deliver on the Child Health Initiative's Manifesto 2030: Safe & Healthy Streets for Children, Youth & Climate, launched at the Stockholm Ministerial Conference on Road Safety in 2020.

The Advocacy Hub has identified an initial portfolio of interventions, including 'Persuader' campaigns aiming for specific legislative and regulatory change; 'Pathfinder' projects developing an enabling environment for policy change; and support for global coalitions building capacity and awareness as well as supporting a mix of Persuader and Pathfinder interventions. Partners include UNICEF, the UN Environment, the Global Alliance of NGOs for Road Safety, YOURS – Youth for Road Safety, and a range of regional and national NGOs.

"At the heart of the 2020 Stockholm Declaration for Global Road Safety was a call for 30km/h speed limits on urban streets. We know that above 30 the risk of death for pedestrians rises exponentially. If you support Vision Zero, if you believe that no one should die or be maimed in a road crash, then you must 'love 30'. Our new Advocacy Hub will put money, expertise and single-minded determination behind this objective," said Rt Hon Lord Robertson of Port Ellen, Chairman of the FIA Foundation.

"Many of us are taking to the streets and demanding change," added Zoleka Mandela, Global Ambassador of the Child Health Initiative. "The streets are for the people. We want low speeds, liveable streets and communities where we can walk safely, where children can get to school unharmed. We call for 30km/h limits. Above 30 is a death sentence."

» Purpose»Driven
ENVIRONMENT

FELIPE CALDERÓN:

Sustained improvement

TEXT / BARBARA SILVA

05 *Felipe Calderón*, President of the FIA Environment & Sustainability Commission, explains how the FIA is driving action on climate change through benchmarking, positive reinforcement and by harnessing the innovative might of motor sport

What were the objectives of the Commission at its creation?

The mission of the FIA Environment & Sustainability Commission is to work closely with both the Sport and Mobility pillars of the FIA to ensure they maximise their environmental and sustainability credentials, and provide high-level advice on future trends and developments in this area.

What are the key achievements of the Commission up to this point?

In its first two years of action, the Commission has focused on guiding the progress and implementation of the FIA's Environmental Accreditation Programme, aimed at helping motor sport and mobility stakeholders worldwide to measure and enhance their environmental performance.

In addition, the Commission has addressed sustainable mobility topics through programmes such as the FIA Smart Cities initiative, looking at how to tackle issues such as air quality and congestion, and to advance towards a more safe, sustainable and accessible urban mobility.

The Commission also set as a priority the strengthening of the FIA's collaboration with other motorised sport federations such as the Fédération Internationale de Motocyclisme (FIM) in motorcycling, the Union Internationale Motonautique in powerboating and the Fédération Aéronautique Internationale in air sports, the International Olympic Committee (IOC) and the United Nations Agencies.

This led to the signature of the UNFCCC Sports for Climate Action.

Finally, throughout 2020, and according to its mandate, the FIA Environment & Sustainability Commission formulated and adopted its Environmental Strategy 2020-2030.

What are the key objectives of the FIA Environmental Strategy?

Based on a science-based target reduction plan, aligned with the Paris Agreement's 1.5°C objective, the strategy builds on the FIA's increasing efforts to reduce the environmental impact of motor sport and mobility by setting clear goals to accelerate this progress.

The adopted strategy not only engages the FIA in a wide organisational effort to measure, reduce, offset and remove the emissions that result from its own activities – becoming carbon neutral from 2021 and net zero by 2030 – but involves the FIA taking a leadership role amongst its 245 members and 138 championships in pushing for global climate action. ‣

'There is major commitment from one of the world's most practised sports to tackle the crisis we are all facing'

FELIPE CALDERÓN, PRESIDENT, FIA ENVIRONMENT & SUSTAINABILITY COMMISSION

Commission President Felipe Calderón is leading the FIA's work to reduce the environmental impact of sport and mobility.

The strategy also explores motor sport's ability to deliver innovative technological solutions and sustainable benefits for the environment and society as a whole. This will be delivered through ambitious road maps for electrification and green energy applications across FIA championships.

How important is it to focus on emissions reductions?

It's crucial. Even if everyone embraces offsetting, we will still not reach the objectives set by the Paris Agreement. Evidence-based targets have been developed and these estimate that a reduction of 4.5 per cent per year would be required in order to reach the 1.5° degrees objective. In order to approach that we cannot focus on offsetting alone and will need to promote technology and innovation to capture the remaining carbon that cannot be reduced.

What is the FIA doing in its own offices and practices to become more sustainable?

The FIA has removed single-use plastic cups from its offices since January 2019, saving more than 300,000 cups. This has been accompanied by an extensive waste strategy, drastically reducing the amount of waste going to landfill.

Since the start of 2021, the Federation has been working on a reduction plan that will look at how we can increase the efficiency of our operations, from freight to travel, waste to energy use.

In order to lead the way and certify our actions, we will be reaching ISO14001 certification for all FIA operations before the end of the year.

Calderón says the FIA is taking a leading role with mobility clubs to push for global climate action.

What is the FIA doing to help its members to become more sustainable?

The FIA had developed an extensive training programme, which was launched in July at this year's FIA Conference. This programme will be available for free to any member organisation that wished to develop internal expertise in sustainability.

The FIA also has in place a grant programme that offers funding possibilities for environmental projects. Applications for these grants close at end of August.

Looking at motor sport, a number of series have already committed to climate goals in partnership with the FIA. How is the Federation helping to expand motor sport's contribution?

The FIA has worked to develop an accreditation road map by which all world championship stakeholders will be fully accredited by 2025. This represents a major commitment from one of the world's most practiced sports to tackle the crisis we are all facing, not only through direct action, but through influencing other stakeholders to adopt similar benchmarking and by extension the public at large that sees the efforts being made by the sport they love and are encouraged to take their own steps towards sustainability. We are also working on a new energy application road map for FIA championships.

Do you think motor sport can innovate towards a more sustainable future? Is its ability to rapidly prototype technology its key asset?

Absolutely. Motor sport is crucial as a proving ground and laboratory for new technologies that can be cascaded into the automotive sphere, the cars we drive every day. And that has been the case for many years. Just to look at a couple of examples, in 2009 the FIA brought the Kinetic Energy Recovery System (KERS) to Formula 1, harvesting energy from the braking phase to boost power.

In 2014 we of course had the introduction to F1 of hybrid turbocharged engines, which not only recovered brake energy but also energy from the turbocharger. In the short seven years since, the thermal efficiency of those power units has grown from around 30 per cent to over 50 per cent, making them the most efficient automotive engines on the planet. An incredible achievement.

We have also seen the advancement of battery and propulsion technologies developed for the Formula E Championship since its launch in 2014, and the FIA is at the forefront of research and development into sustainable fuels and hydrogen technology for motor sport use and by extension application to road-going vehicles.

Not only does motor sport act as an R&D tool for these emerging technologies, but it also acts as a platform on which to showcase and promote these technologies to huge global audiences.

The global popularity of motor sport enthuses, fascinates, informs and engages billions of people, young and old, every year. Motor sport has significant industry links with automotive OEMs and has a strong influence on buying behaviours for personal mobility.

In my opinion, there is no better environment in which to rapidly innovate, deploy and refine future-focused technology, and no better medium by which we can deliver a message of positive change.

If through the innovative engineering brilliance of motor sport we can persuade its many millions of fans to push for more sustainable mobility systems in their own lives then we can imagine a brighter future for us all. ◂

Formula 1 has shown itself to be a valuable proving ground for technology that reduces its effect on the environment.

Purpose Driven
ENVIRONMENT

05

ELECTRIC RACING'S GRAND VISION

The FIA's mission to make motor sport a laboratory for sustainable mobility is gaining even more momentum with the launch of the innovative FIA Electric GT Championship

TEXT
/
PIOTR MAGDZIARZ

The new FIA Electric GT Championship will help develop technology relevant for high-performance road cars.

The history of motor sport is almost as old as the automobile itself and for most of this time the world of four-wheeled competition has evolved around the combustion engine.

Today, the gradual implementation of sustainable energy is set to revolutionise motor sport and form a key strategic objective of the FIA for years to come.

"The FIA's vision is to make motor sport a laboratory for sustainable mobility," says FIA President Jean Todt of the organisation's plans to add more electric-powered competition to its portfolio.

"The role of electric propulsion in the automotive industry is ever-increasing," adds FIA Technical Director Xavier Mestelan Pinon. "As we want motor sport to be relevant to the industry, more and more series are going in this direction."

Arriving in 2023, the FIA Electric GT Championship captures a unique combination of innovations and is intended to serve manufacturers as a platform to develop technology relevant to their high-performance road cars.

"This concept is sustainable, innovative and will pave the way for new battery and fast-charging technologies," explains President Todt. "It's a perfect illustration of our race-to-road approach in terms of technology transfer, making it relevant to manufacturers and road users."

The cars built to this set of technical regulations will compete at full-length permanent circuits and will set new standards for electric vehicles in motor sport in terms of performance and range, operating in a similar performance window to the current generation of GT3 cars but exceeding their combustion-engine counterparts in areas such as acceleration and qualifying pace.

Promoter Eurosport Events will stage races across Europe, the Middle East and Asia in 2023.

FROM RACE TO ROAD

The new class is based on direct manufacturer involvement, with the technical regulations formulated to achieve the right balance between permitting the OEMs to express their creativity and develop cutting-edge technology, and preventing cost escalation.

The category will be open to both specialists in electric vehicle construction without previous combustion engine motor sport experience as well as manufacturers already committed to the GT3 class, who will be able to utilise the architecture and certain design elements of their existing cars and convert them to electric power.

Depending on the base model, the minimum weight of the cars will vary from 1490 to 1530kg, with maximum power reaching 430kW. Setting the weight threshold higher than it is for the GT3 class will limit the use of expensive materials.

In addition to fast charging, the category will feature several other innovations relevant to technology transfer.

"The main technical challenges are battery development, battery integration in the cars and fast-charging technology," says Mestelan Pinon. "This is crucial to the manufacturers who want to develop road-relevant technology rather than relying on standard components."

The manufacturers will also have the freedom of choosing their own powertrain set-ups, comprised of either two or four electric motors, with both two- and four-wheel-drive configurations allowed.

The cars will feature dynamic vehicle control that will automatically adjust the torque of each wheel independently based on speed, acceleration, traction and steering angle, thus ensuring that the cars will have supreme handling characteristics.

"The market for high-performance electric road supercars is increasing, hence a platform to allow manufacturers to develop and showcase their technology was much needed, and there's keen interest in this new category," explains FIA GT Commission President Leena Gade.

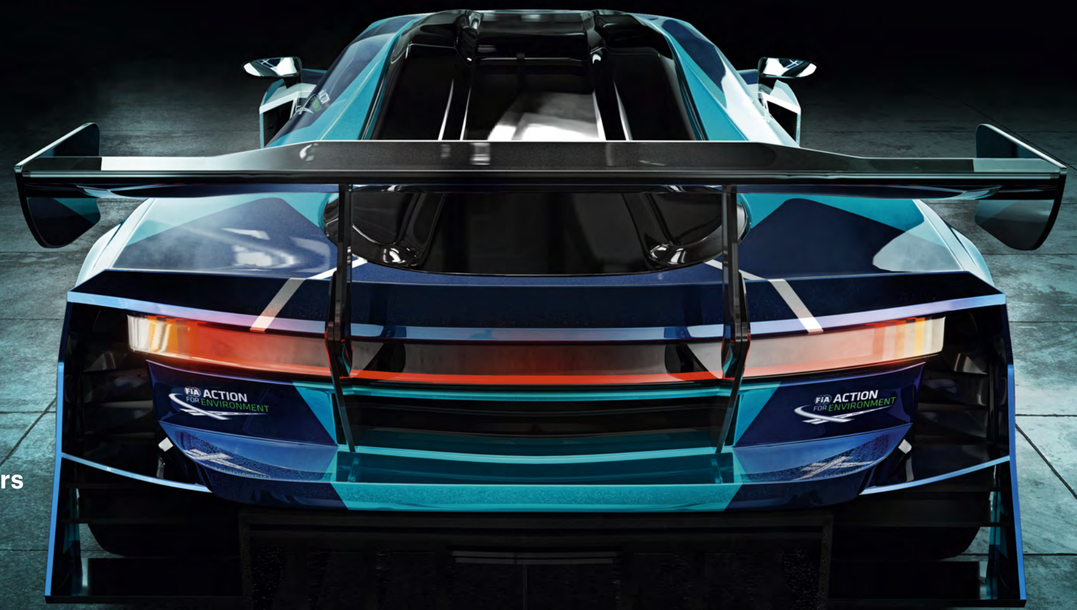
WORLDWIDE PROMOTION

The new category will be promoted by American company Discovery through its French-based subsidiary Eurosport Events under a long-term partnership with the FIA.

Relying on the group's knowledge of global consumer platforms, broadcast channels and media brands, the objective of the promoter will be to raise awareness of the category worldwide.

"It is a privilege to grow our 17-year partnership with the FIA," says François Ribeiro, Head of Eurosport Events. "For the first time, we will put the full power of Discovery behind Eurosport Events, allowing us to meet the expectations of premium car manufacturers and develop a powerful new flagship asset in the FIA Electric GT Championship."

In its inaugural season in 2023, the Electric GT championship is to be made up of a minimum of six international events held across Europe, the Middle East and Asia, and staged at a variety of iconic circuits, with an expectation to expand into the US for season two.



'This is crucial to manufacturers who want to develop road-relevant technology'

XAVIER MESTELAN PINON, FIA TECHNICAL DIRECTOR

Powered for innovation /

The FIA Electric GT Championship will to drive the future of e-mobility through its unique approach to battery development

The FIA Electric GT Championship will set trends in electric-powered motor sport as the first category not to rely on standardised batteries.

The class is designed to accommodate cars of vastly different architectures with different spaces available to install key components. Through a partnership with industry-leading firm Saft, a subsidiary of Total, the category will allow manufacturers to build their own bespoke battery layouts based on Saft-supplied cells.

The company relies on more than 100 years of experience in the battery business, including involvement in industries such as defence, aeronautics and space programmes. Through its support of Formula 1 teams since 2006 via development of Kinetic Energy Recovery Systems (KERS), Saft has become the single largest cell and battery technology provider on the F1 grid. Saft's battery solutions for racing applications are overseen by its Space and Defence Division, co-located in Maryland in the US and in Poitiers, France.

Leaning on its know-how, the company has developed bespoke lithium-ion pouch cells optimised for the needs of the FIA's new Electric GT category.

"Being chosen as the exclusive supplier to an all-new FIA-sanctioned racing series is the ultimate endorsement of our experience," says Annie Sennet, EVP of Saft's Space and Defense Division.

The bespoke cells were designed to allow for 700kW peak regeneration and 700kW fast charging that will replenish up to 60 per cent of charge within minutes during a mid-race pit-stop.

"The FIA's invitation to tender for Electric GT presented several unique challenges, the most ambitious of which was the fast-charging requirement," Sennet adds. "Saft has continuously improved cell technology, developed in various form factors and varying chemistries, and provided novel innovations allowing tighter packaging solutions from their initial baseline. "The result of Saft's experience as the leading supplier of cutting-edge lithium-ion technology across our industries is a bespoke high-rate pouch cell offering the ability to perform at very high temperatures, exceeding 100°C."

There's an interesting comparison between Saft's traditional customer base and the requirements of motor sport.

'Our bespoke battery pouch cell can perform at over 100°C'

ANNIE SENNET, SAFT

"While our government and satellite clients typically request batteries to work at low[er] temperatures and tend to be risk-averse, our racing customers, in many respects, look for the exact opposite – optimised performance at over 80°C, while pushing the limits of performance," says Sennet. "The main correlation between the two markets is the insistence on safety, reliability, and requests for custom solutions."

A charging network will be developed to meet the fast-charging requirements and, depending on the venue, will include elements of permanent and temporary infrastructure.

TEXT / LUKE SMITH

Star Performers

From teams to events, promoters to organisers, motor sport is setting new standards for sustainable competition. And through the FIA Environmental Accreditation Programme and its star-rated measurement system, ambitious goals are being realised, as AUTO discovers...

Audi Sport's 3-star rating has been helped by the environmental efforts of its Formula E squad, led by Allan McNish.

Throughout its history, motor sport has typically been the laboratory that allows for some of the biggest breakthroughs in mobility, redefining performance, technology and safety standards.

The same is true for sustainability. As the world faces the ongoing climate challenge and considers solutions for our road vehicles, motor sport has been one of the primary areas where environmental standards are being taken to new levels.

The FIA Environmental Accreditation Programme is a scheme that has helped all mobility and motor sport stakeholders – including ASNs, circuits, championships, promoters, event organisers, teams, manufacturers and suppliers – to measure and enhance their environmental performance.

The programme has a three-level framework. One-star accreditation sees stakeholders demonstrate basic environmental performance with a commitment to improve. Two-star accreditation will see applicants demonstrate good environmental performance and follow road maps for environmental management.

Top-performing stakeholders receive three-star accreditation for demonstrating best practice and a commitment to seek continual environmental improvement.

The programme follows the best practices from ISO 14001 – an international standard for environmental management – which have been developed to fit the FIA's stakeholders. Applicants are given the framework with which to complete a self-assessment before an audit is completed by the FIA Sustainability team, which supports stakeholders throughout the process.

The push for environmental sustainability is a core part of the FIA's #PurposeDriven movement, which aims to be a catalyst for positive change across motor sport worldwide.

Four of the most recent accredited stakeholders are Audi Sport (3-star), Eurosport Events (3-star), the Rally di Roma (2-star) and the Rallye Azores (2-star), all of which have been recognised for their environmental efforts this year.

Audi Sport /

Audi Sport received the FIA's highest sustainability rating in March after taking time last year to closely review its environmental standards. As the team principal of its Formula E squad – racing in a 3-star-accredited championship – Allan McNish played a central role in Audi's application.

While its Neuberg facility already has high environmental standards, with a photovoltaic system planned to produce more green energy, McNish welcomed the questions posed by the FIA during its inspection.

"It's always very good to have an outside view in, to make sure that the things you are doing are actually at the level that can be done at the time," McNish says. "We get into routines. It's very good, even if we were able to tick the boxes, as we are today, for the accreditation system to highlight areas that we need to keep in mind."

It made Audi question its practices, such as the amount of freight for its Formula E team. "We've done a lot from season to season just to make sure we are not taking around additional items that we do not need," says McNish. "Our team went through everything in packing for the races – is everything here required?

"The accreditation system has been very good for us at Audi," he adds. "It was certification that what we were doing already is on the right path, and it also highlights it to the wider group of the motor sport industry, which if we're being very honest about it, has not necessarily had sustainability at the forefront of its mind."

McNish takes pride in Audi's 3-star accreditation, believing the rigorous programme shows how motor sport can help lift benchmarks: "We have to be on the leading edge when we're talking about technical developments for the future, we also have to be on the leading edge when we're talking about other factors like sustainability.

"It's a different type of winning – this is a statement of where everybody in our ecosystem is working towards as well."

'We have to be on the leading edge when we're talking about technical development, but also sustainability'

ALLAN MCNISH, AUDI FORMULA E TEAM PRINCIPAL

Eurosport Events became the third promoter to earn a 3-star rating with the launch of its electric PURE ETCR series.

Eurosport Events /

Eurosport Events serves as the promoter for the FIA WTCR – World Touring Car Cup, FIA European Rally Championship and PURE ETCR, and became the third promoter after Formula 1 and Formula E to receive 3-star accreditation in May. After initially targeting 2-star accreditation, the FIA's auditors encouraged Eurosport Events to go for the highest level.

Environmental considerations have become an increasing priority for Eurosport Events and, following the presentation of an all-electric car ahead of the 2018 Geneva Motor Show and the creation of the electric PURE ETCR series in 2019, the promoter staged the first event of the new series at Vallelunga in June. It will evolve into the FIA eTouring Car World Cup in 2022.

"With the pandemic and the FIA action with #PurposeDriven, it made us extend our environmental action as a promoter," explains CSR Manager Gautier de Stoppani.

"Previously we had local but more socially oriented action with the #RaceToCare programme in WTCR, for example. But we decided to go further with our environmental impacts, to strive for permanent improvements."

Eurosport Events has created an environmental chart that is set to become increasingly rigorous in years to come. But de Stoppani felt the FIA Environmental Accreditation helped focus the promoter's green efforts.

"The accreditation was really the framework, it helps a lot," he says. "When you say you're going to be more environmentally friendly, you can go in every direction. With the FIA accreditation, we can find the key environmental areas to work on."

Despite staging races and rallies across numerous countries, all with varying standards and regulations, Eurosport Events ensures it works with environmentally-aware stakeholders and suppliers. It is also committed to using social media to highlight environmental issues to fans.

"We share the same goal in motor sport, even though each series, event, country is different regarding its key environmental impact areas," de Stoppani says. "The motor sport world knows the climate is changing, and we must use motor sport to push forward global sustainability. ▸

Rally di Roma

Following European Rally Championship promoter Eurosport Events' 3-star accreditation, the ERC's Rally di Roma received a 2-star accreditation earlier this year for its environmental efforts.

Established in 2013 in one of Europe's most historic cities, the rally's organisers have always been acutely aware of the need to reduce its carbon footprint. While Bruno di Panto, team manager for Rally di Roma organiser Motorsport Italia, says many of the event's prior green efforts were included in the framework, he appreciated the FIA's fresh perspective.

"You see things sometimes in a narrow picture, because you think that what you are doing is already better than the previous year," di Panto explains.

"But having suggestions from somebody else who is allowed to see many of these environmental resources, they can tell you that what you are doing is great here, here and here, but maybe you can try to improve here and there."

Looking ahead to July's event, organisers were working with manufacturers to use hybrid and all-electric cars for event logistics. They were also making the service park plastic-free and encouraging fans to recycle waste to keep the stages tidy.

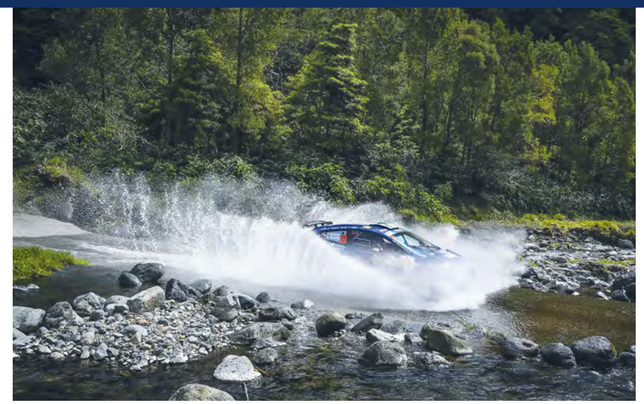
But the game-changing element of the accreditation came in dealing with local authorities, which are keen to protect Rome's history and had previously been uneasy about motor sport events. On the day the rally received its 2-star accreditation, di Panto received an enthusiastic call from the city's sports chief, showing support for the event and its environmental considerations.

"It showed that we were caring about the same things: the environment," di Panto says. "Having this process has really opened some doors that I thought were closed. This process has opened people's eyes in a way that I wasn't expecting.

'This accreditation process has opened some doors that I thought were closed'

BRUNO DI PANTO, MOTORSPORT ITALIA

Rally di Roma organisers are running a plastic-free service park and encouraging fans to recycle waste.



Rallye Azores is run in ecologically protected areas, making environmental impact a key concern.

Rallye Azores

Rallye Azores joined Rally di Roma in obtaining 2-star accreditation as an ERC round earlier this year, with the Portuguese archipelago being home to some spectacular scenery and natural ecological sites.

Facing the unique challenge of protecting the biodiversity in the Azores, event organisers were able to work within the FIA Environmental Accreditation's framework to highlight key areas that were most relevant for the rally, and help to set new targets.

"We have a lot of endemic plants," explains Rallye Azores environment officer Helena Prisca. "To compensate for damage in the environment, the plants essentially, we set this target in the FIA accreditation.

"Waste is a big problem, because Rallye Azores was developed in nature areas, and not on the public roads. Some of [the stages] are in ecologically protected areas. This was a key thing that we worked on."

The distance from the Azores to the European mainland also presented a question about emissions for those travelling, which was addressed through the FIA audit. This year, a commercial boat will be used to transport all the cars instead of a specific one for the rally. Other moves to reduce the impact of those travelling such a vast distance for the event include working with environmentally-friendly hotels for teams and officials to stay at.

Rally organisers had engaged with the WRC's Rally de Portugal about its environmental strategy, but found the FIA accreditation programme allowed for even greater collaboration with events across the world.

"The other events who are getting the accreditation in their country, they are meeting with us to share some ideas and experiences," says Prisca. "It was very friendly, sharing between other events."

Prisca feels "very proud" of the 2-star accreditation. "I'm a big defender of the environment and I love my island," she says. "It's amazing that an event like Rallye Azores has this environmental accreditation. We must work on solutions with all stakeholders."

FIA Sport & Mobility Environmental Accreditation Programme

FIA Environmental Accreditation ★★★

- 7 ASN/ACN Mobility Clubs
- 3 Promoters
- 11 Event organisers
- 10 Teams
- 3 Circuits
- 3 Suppliers

TOTAL: 37 ACCREDITED

FIA Environmental Accreditation ★★

- 4 ASN/ACN Mobility Clubs
- 8 Event organisers
- 1 Circuit

TOTAL: 13 ACCREDITED

FIA Environmental Accreditation ★

- 6 ASN/ACN Mobility Clubs
- 1 Event organisers
- 1 Circuit

TOTAL: 8 ACCREDITED

TOTAL: 58 ACCREDITED

Purpose Driven
ENVIRONMENT

Setting the benchmark for sustainability

05

Like their sporting counterparts, the FIA's Mobility Clubs are also striving to meet ambitious sustainability goals, as the results of pilot projects from around the world demonstrate

The FIA's Environmental Accreditation Programme has achieved notable success in the world of motor sport, with a total of 58 key stakeholders from around the world accredited to date. And with the implementation of a pilot programme aimed at bringing the same rigorous benchmarking to the Federation's Mobility Clubs, the wider world of motoring is now embarking on the same journey towards sustainable operation.

Launched in 2019, the programme utilises the same three-level framework applied in the realm of Sport – a star-rating system that recognises basic environmental performance, demonstrable progress towards excellence and, at the three-star level, the use of best practice and the pursuit of continual improvement. And as part of the programme the Federation designs a specific accreditation roadmap for each club joining the programme, covering key environmental impact areas as well as the principal business activities of clubs, including operations at their headquarters, regional offices, with road assistance and workshop units, as well as at driving and education centres.

For the pilot programme three Mobility Clubs from different regions were invited to take part, with each pursuing radically different but equally impressive paths to accreditation.

Norway's NAF carefully measures the environmental impact of its road assistance fleet.

★★★

NORWAY

NAF /

Norway's NAF has put in place sustainability measures at its 44 driving centres across the country, linked to a long-term, non-profit operational agreement with Norwegian authorities. SOS Road Assistance, NAF's outsourced supplier, is fully certified against ISO 9001, 27001 and 14001 standards, with 14001 being the standard that sets out the criteria for an environmental management system.

With a high level of detailed monitoring, the club has optimised management of its HQ operations, including the tracking and measurement of waste, electricity, water, chemicals, and kilometres driven by road assistance vehicles.

It also issues a monthly environmental performance report from the road assistance services, including CO_2 emissions per kilometre, per car, and fuel consumption per km.

Speaking about the attainment of a full three-star FIA accreditation, NAF President Fredrick Andersen says: "The accreditation programme represented a great opportunity for the club to measure its operations and further structure its efforts to function in a more sustainable way. It helped us to set new, more ambitious goals and serve as an example for others to follow."

★★★

ECUADOR

ANETA /

Ecuadorian club ANETA was selected for the pilot programme due to its implementation and promotion of sustainable mobility throughout the country.

The club has developed a number of initiatives in this area through the creation of a specially dedicated department, which has put into action its Environmental Practices Manual for the organisation, including operations at its headquarters in Quito and its associated gas stations.

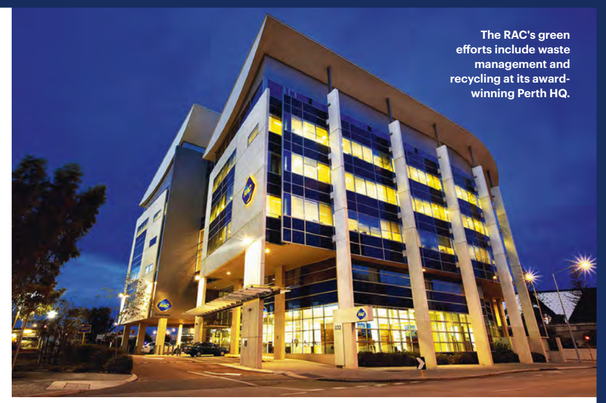
The club also introduced Nissan Leaf electric vehicles at its driving schools and created the Electric Karting School to encourage more sustainable sport in the country.

ANETA has developed a sustainable mobility strategy for the Galapagos Islands in partnership with the Inter-American Development Bank. This work complements the club's management of 31 driving schools in Ecuador, two of which are in the Galapagos Islands, educating more than 5,000 students per month.

The club's engagement with environmental issues encompasses a strong commitment in the field of biodiversity protection in the Galapagos Islands, and on a national level extends to its partnership with the UN Global Pact to contribute to sustainability goals outside the internal sphere of the club.

"Environmental responsibility is a transversal component of all our activities," says Gorki Obando, ANETA General Manager. "Through the FIA programme we have defined how we positively impact the environment and protect our planet."

ANETA is working hard to protect the environment in Ecuador and on the Galapagos Islands.



The RAC's green efforts include waste management and recycling at its award-winning Perth HQ.

★★

AUSTRALIA

RAC Western Australia /

Representing the interests of more than 60 per cent of Western Australian households, the RAC is passionate about ensuring safer, more sustainable and better-connected communities. The RAC offers a broad portfolio of services including roadside assistance, car servicing and repair, finance, parks and resorts, and insurance.

The club's two-star accreditation is founded on a number of initiatives undertaken in recent years. The RAC is an award-winning signatory of Australia's CitySwitch Green Office programme, which helps businesses to improve their energy and waste efficiency. It's Perth headquarters currently holds a five-star National Australian Built Environment Rating System (NABERS) base-building rating and a 4.5-star rating for the whole building. At its HQ, waste and recyclables management are outsourced with strong environmental KPIs in place.

The club also installed an online sustainability monitoring platform to show staff, members and visitors how actions impact electricity usage. The club's procurement process asks suppliers to include an environmental plan in proposals.

On the road, emissions emitted by fleet vehicles (including all roadside patrol vehicles) are offset with the purchase of carbon credits and the club has a robust recycling process in place for scrap metal, tyres and batteries. RAC members are also rewarded for driving low-emission vehicles through incentives and discounts.

"Effectively managing out impact on the environment and influencing better sustainability outcomes for the community remains a key priority for the RAC," says CEO Rob Slocombe. "We look forward to working with stakeholders to extend our focus on these activities even further."

'The FIA accreditation programme helped us set new, more ambitious goals'

FREDRICK ANDERSEN, NAF PRESIDENT

05

Monitors of the elements

TEXT / SANTIAGO PENA GOMEZ

Aurassure, Asia edition winner of the FIA Smart Cities Global Start-up Contest, wants to enhance awareness of air quality and flood threats, and provide governments with measurements for sustainable development

Winner of the Asia edition of Season 4 of the FIA Smart Cities Global Start-up Contest, Aurassure is a young Indian company built around a desire to improve air quality in cities, and predict water levels and provide flood warnings using low-cost, portable monitoring systems.

The company's air quality system can be easily clamped to any pole or wall in critical regions of the city with a view to large-scale deployment. The system's sensors analyse and review sensitive air quality data continuously to trigger warnings of a rise in pollution. The smart air quality monitoring supplements conventional methods of pollution monitoring by providing high-resolution spatial and temporal pollution data. This data can be used to improve exposure estimates by raising awareness levels among communities and governments.

Similarly, Aurassure's flood monitoring solution has sensors that monitor water levels and rainfall at critical zones such as dams, pump houses and canals with a view to mitigating flood risk.

Since winning the award Aurassure, like many companies, has suffered through the pandemic. But while the health crisis has slowed its plans it has also led to new opportunities, as **CEO and founder Amiya Kumar Samantaray** explains.

Aurassure won the Season 4 Asia award in June 2020. How has the company developed since?

> Already we are working in more than 20 cities in India. Primarily we work with system integrators and sometimes with the decision makers of the municipalities in different cities. However, the COVID-19 pandemic has slowed us down significantly because of lockdowns. The implementation work has completely stopped chiefly because environmental concerns are not the primary concern for any city at this point in time as the government needs to handle the pandemic situation. So there is less focus on IoT or technology-based solutions for the environment. Last year was a difficult time for us but we had other customers from the industrial sector who helped us through this difficult period and we have changed our business model to successfully emerge from this challenge. We've launched a project called DATOMS, which is kind of a digital transformation platform for OEMs. If you look at today's world, we are driving towards a service-driven economy rather than a product market or maybe a one-time sales kind of journey. So rather than selling a sensor or a device, can a manufacturer sell a service or maybe a smart product? COVID has enabled this thought process in the minds of OEMs and most companies – if you look at automobiles, equipment manufacturers – are thinking about bringing some smart component into the product line. So they become more resilient to this kind of situation and can manage their workforce in a better way.

You've also been working with the Asian Development Bank (ADB)?

> Yes. In 2018 we got the first city project from the ADB for the city of Kolkata. We deployed one of the largest sensor networks for urban flood forecasting and air quality monitoring systems in the city. The ADB was happy to see us implementing such a large-scale project. Then last year cyclone Amphan hit the eastern part of India and our network helped them to manage the city flood.
> Those aspects helped the ADB understand the potential of our technology and they came up with a marketplace concept for us. This allowed us to present solutions to the world. They had invited multiple decision-makers, actors in the domain of water management and the smart water treatment area. Also, we have started working with other developmental agencies such as UN-Habitat.

What other projects has Aurassure been involved with?

> When the Hockey World Cup was held in Bhubaneswar in 2018, we deployed our sensors in the city to look at air quality. Our sensors supported decision makers in redirecting traffic to manage air quality levels in a reasonable way. Our solution has also helped schools change the time of play periods depending on air quality, because every day it's not the same.

How do you see the systems helping cities going forward?

> Development is happening in a faster way and we are not thinking about all the aspects related to sustainability, flooding, or air quality. So we need to have an infrastructure in place where we can get real-time information as to whether a city is sustainable in terms of different aspects: it could be related to water, flooding, or air quality. We can't just talk about one aspect, because if we are only focusing on air, after some time flooding could be a major challenge globally. What I see is a pattern rising around the globe. Urban flooding could soon be a major challenge in most of the cities in India, and in the world because a lot of construction and development is happening unplanned.
> We have not seen what could go wrong because climate change is happening and you have unpredictable rain every year.
> The point is to do more with the infrastructure and at this time nobody is interested in putting money into infrastructure. Maybe in one or two years down the line these things will evolve as a significant winner for cities, but we should have the solutions available to us and get prepared for the times to come. That's what we are thinking, because right now nobody is looking into the wholesome effect of sustainability. ◂

The Aurassure team are gaining a global audience as they address sustainability issues.

MARKUS DUESMANN:

REFORGING THE FOUR RINGS

TEXT / JUSTIN HYNES

Audi's identity as company of pioneering engineering, embodied in its famous 'Vorsprung Durch Technik' slogan, is being put to the test as the automotive world switches to electric power. Leading the German brand through the transformation is CEO *Markus Duesmann,* and he's using F1 expertise to deliver change

05

When Markus Duesmann took on the role of CEO at Audi in late 2019, he stepped into a harsh climate of historic losses and thin recovery. The Dieselgate emissions scandal had hit the company hard, and despite launching an ambitious Audi Transformation Plan in 2017, the firm's bid to position itself as a provider of mobility focused on digitalisation, sustainability and urbanisation was evolving slowly.

Previous CEO Rupert Stadler had delivered efficiencies and savings but sales were hard to come by. Profits in 2018 tumbled by €700 million as the switch to WLTP emissions testing delayed product launches. The following year began harshly with the company reporting a half-year operating profit of €2.3 billion, a drop of 17.8 per cent annually. By the close of the year recovery was underway but delivery of the bold reinvention plan was still slow. Duesmann was taking over at a tough time. And then, just weeks after he was appointed, reports began emerging of a previously unknown virus that was causing severe illness and fatalities in China.

"I don't know Audi pre-Covid," he said recently. "My first few months were dedicated to crisis management as well as safeguarding our liquidity and our leeway to act. We have done everything in our power to emerge from this crisis even stronger and to be able to restart production. We prepared tens of thousands of jobs for pandemic conditions and rebuilt supply chains after the shutdown in spring. We mastered this crisis as the new management board, and have grown as a result. We have also grown together as a team."

CEO Markus Duesmann is helping to transform Audi's fortunes. Below: sporting ties are still key – Audi had a number of entries in this year's Nürburgring 24 Hours.

The pandemic has been a major test of Duesmann's early resolve as Audi chief and of his credentials. But with a background in the rapid reaction world of Formula 1, there were perhaps few major automotive figures better qualified to respond to a crisis.

Born in 1969 in Heek, North Rhine-Westphalia, the German first came to prominence in 2005 as head of Formula 1 development at Mercedes-Benz in Brixworth in the United Kingdom, the facility that would eventually go on to build the hybrid engines that have dominated the sport since 2014.

Duesmann's time there was short, however, and in 2007 he moved to BMW AG as head of Formula 1 powertrain. It was with the Bavarian manufacturer that he established his automotive reputation, eventually switching from F1 to become a member of the board of management and head of purchasing.

"Covid didn't slow us down," he says. "Despite the pandemic we resolutely forged ahead with Audi's transformation. Let me give you a few examples: first off, the reorganisation of Technical Development. Since the summer of 2020, we have been systematically improving how we develop. On the one hand, we are rethinking the car as a mobile device, meaning the degree of digitalisation – the vehicle electrical system – is more important in classification than the car body. This is reflected in the new organisation. On the other hand, the reorganisation aims to shorten development cycles and get innovations into series production faster."

To deliver that developmental shift, just three months after his appointment Duesmann added to his portfolio of responsibility by taking on the role of Head of Technical Development, with an Audi statement revealing that he would realign the premium brand's development division with a special focus on process quality.

And to deliver swifter developmental lead times, Duesmann again leaned on motor sport expertise, this time in the shape of a new department, christened Artemis, headed by former F1 and FIA World Endurance Championship engineer Alex Hitzinger.

Hitzinger's career stretches back to stints with Toyota, Cosworth and Red Bull in Formula 1, with Porsche in its glory years at Le Mans and in the WEC from 2015 to 2017. Most recently he worked at Apple before joining Audi's autonomous car programme.

"[He will] work to develop a pioneering model for Audi quickly and unbureaucratically," says Duesmann, adding that the resources and technologies of the entire Volkswagen Group are potentially available for a project designed to provide a blueprint for the future agile development of cars throughout VW.

"With 75 planned electric models by 2029, the current electric initiative at the Volkswagen Group naturally ties up all our capacities," adds Duesmann. "The obvious question was how we could implement additional high-tech benchmarks without jeopardising the manageability of existing projects, and at the same time utilise new opportunities in the markets."

ADVANCING FORWARD

Artemis will focus on new technologies for electric, highly-automated driving with a specific model reference. Its first task is to create a highly-efficient electric car scheduled to be on the road as early as 2024. The creative team will also develop an extensive ecosystem around the car, thus designing a new business model for the entire usage phase.

"I value Alex Hitzinger for his strengths in innovation and implementation. We need both qualities to make major technological advances," says Duesmann. "I am also relying on his expertise to integrate future achievements into new products together with the development departments of our major Group brands. In the medium term, I expect Artemis to provide a blueprint for a fast and agile development process at the Volkswagen Group, as agile as in a racing team."

It is the electrification of the brand that takes the main focus, however, and Audi under Duesmann has planned a total amount of approximately €37 billion for research and development expenditure and investment in property, plant and equipment before 2024. Against the backdrop of its roadmap towards electrification, the manufacturer is planning upfront expenditure of €12bn solely for electric mobility.

The strategy has gone even further in recent months with the company announcing that in 2026 it will only release new models onto the global market that are powered purely by electricity. The manufacturer will be gradually phasing out the production of internal combustion engines by 2033.

Audi's 2022 Dakar team will help unite the make's success in Formula E and rallying via a new specially-built vehicle featuring a powerful electric drivetrain.

Audi has ambitious plans to expand its electric model range, which includes the Q4 e-tron.

'Electromobility at Audi is no longer a dream of the future, but the present'

MARKUS DUESMANN, CEO, AUDI

As a result Audi will significantly expand its range of all-electric models, and with the new e-tron GT, RS e-tron GT, Q4 e-tron and Q4 Sportback e-tron, it is launching more electric cars than models with combustion engines in 2021. By 2025, the brand aims to have more than 20 e-models in its line-up.

"With this roadmap, we are creating the clarity necessary to make a decisive and powerful transition to the electric age. We're sending the signal that Audi is ready," says Duesmann.

"In 2021 the electric offensive is gaining further momentum at Audi. For the first time, more than half of all models newly launched in one year are electric. In this way we are more than doubling the number of our all-electric models, from three to seven. Sustainability is of key importance for us, beyond the power source. That is why we wish to compensate the entire CO_2 emissions resulting from the manufacture of the Q4 e-tron models. This means all vehicles are to be delivered to our customers with a neutral carbon balance sheet."

SPORTS STRATEGY

As a former motor sport engineer, Duesmann is also committed to the company taking part in competition and in recent times has confirmed Audi's return to the Le Mans 24 Hours and also a new electric entry for the Dakar Rally in 2022.

"A multifaceted commitment to motor sport is and will remain an integral part of Audi's strategy," says Duesmann. "We want to continue demonstrating the brand's slogan 'Vorsprung durch Technik' in international top-level motor sport and develop innovative technologies for our road cars. The toughest rally in the world is the perfect stage for this. The many technical freedoms offered by the Dakar Rally provide a perfect test laboratory for us in this respect."

The vehicle will be driven by a powerful electric drivetrain. The energy required for this comes from a high-voltage battery, which can be charged as required while driving via an energy converter in the form of a highly-efficient TFSI engine. The aim is to permanently improve the performance of the electric drivetrain and the battery in years to come. The experience gained in this process should then be incorporated into the further development of future electrified production models.

In 2023 Audi will also return to Le Mans and compete with a hybrid car in the new Le Mans Daytona hybrid category (LMDh). The project will be notable as the successor to Audi's victorious R18 e-tron will be designed in collaboration with former rivals Porsche.

"Such collaboration is a logical step," explains Duesmann. "We collaborate closely wherever it makes sense and creates synergies. As far as the product goes, this means shared platforms and technologies that benefit both brands. This is yet another example of the new culture of cooperation within the Volkswagen Group. At Audi, we intend to stand for exactly that: for openness and mutual appreciation."

The Dakar and Le Mans entries draw a line under Audi's participation in DTM and also in Formula E, though Duesmann is quick to point out the value of the electric racing series in the company's transformation.

"Formula E has accompanied the transformation phase at Audi," he insists. "Today, electromobility at the four rings is no longer a dream of the future, but the present."

Duesmann's tenure at Audi has already had a significant impact and despite the difficulties caused by the pandemic the company had its most successful quarter ever at the end of 2020.

"Audi has resolutely faced up to the challenges of the last year and done everything necessary to emerge stronger from the crisis," Duesmann concluded when delivering the year's results. "The global consequences of the pandemic had a decisive influence on our business year. Following a collapse in demand for cars in all regions of the world, stability returned to the markets later in the year – first in China, then in Europe and the USA too. In the fourth quarter, finally, we were able to conclude the year with a record number of deliveries – it was the most successful quarter in the company's history. In total, we earned an operating return on sales before special items of 5.5 per cent in the 2020 business year. This achievement is also the result of responsible crisis management during the corona pandemic and above all a strong team performance. I am delighted at the willingness to change."

And with new strategies taking place on the road and on track it looks like Duesmann's days of transformative management are just beginning.

DR YOUNG TAE KIM:

On the road to safer transport

TEXT / JUSTIN HYNES

05 *Dr Young Tae Kim*, Secretary-General of the International Transport Forum at the OECD, explains how the FIA and ITF have worked together to help ease the transport worries of disabled roads users around the world, and how the organisations' collaboration is creating safer streets for all

The ITF and the FIA have collaborated on the new www.disabledmotoring.fia.com website. How important is this development for disabled road users, and can you see this becoming a global resource to promote inclusion?

Over one billion people live with some form of disability. In many countries, they make up a significant and growing part of the community of travellers and tourists. As FIA President Jean Todt pointed out when we launched the new information portal in June, for many people with disabilities, the ability to use their car is fundamental to their independence.

Yet the rules and regulations for disabled drivers vary from country to country, and this information is often not readily available. We receive a lot of requests for clarification, so we knew there was demand. We were lucky to have the FIA as a partner, with its global network of motoring associations providing inputs.

The database is a concrete step to make transport, and thus our societies, more inclusive – which is the focus of next May's ITF Summit. This is a shining example of a collaboration where small but significant contributions by many have created something that will be extremely useful to many people – something bigger than the sum of its parts.

The ITF and FIA have also partnered to improve road safety since 2014. How has that partnership developed over the past seven years?

I must say that this has been an extremely fruitful co-operation. Road safety is a global scourge that has not received enough attention on any level. How can we possibly accept that 1.3 million people die in traffic accidents every year, a number equal to the population of cities like Dallas or Dublin?

The first FIA-ITF road safety project benchmarked the road safety performance in 10 Latin American countries and helped policymakers there to draw the correct conclusions. This was hugely successful and the starting point of our joint efforts to establish regional road safety observatories, which now exist for Latin America, the Asia-Pacific and Africa. Together, we also created the Safer City Streets network, in which more than 40 cities worldwide have joined forces to improve urban road safety by exchanging data and learning from each others' experiences.

You mention the importance of road safety data to identify the most effective interventions and ultimately reduce traffic deaths. The Safer City Streets project compared urban road safety across more than 40 cities. How has that informed thinking about traffic safety in cities? Has that research continued?

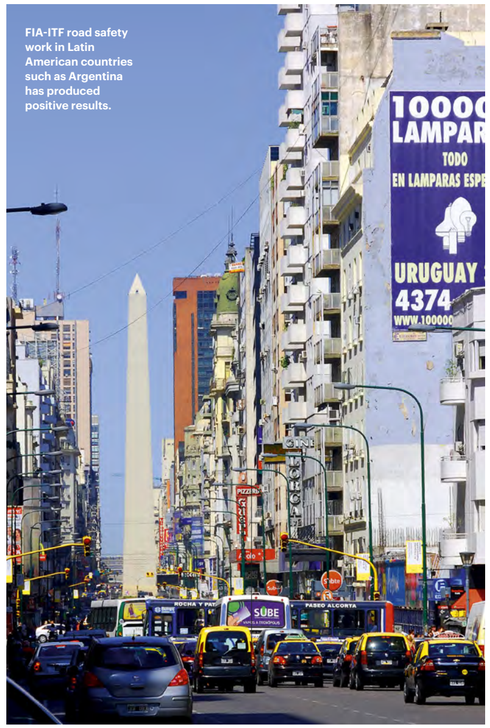
This project has had a lasting impact. For example, the Secretary of Transportation of Buenos Aires told me that access to best practices from other cities has allowed them to reduce traffic fatalities by 33 per cent in four years. Real impact like that makes me proud and shows we are on the right track. ▸

The ITF's Dr Young Tae Kim says collaboration with the FIA is helping to address multiple mobility concerns.

Safer City Streets has helped the participating cities to set ambitious yet realistic road safety targets. It has shown them where to do more to protect pedestrians, cyclists, seniors and vulnerable road users in general, who make up 80 per cent of road deaths in cities.
A recent update to the 2018 Safer City Streets benchmarking report showed that several cities are reducing their fatalities in line with the targets set by the United Nations for this decade. And many cities which are not there yet are keen to progress and look to us for support. More than 70 cities from all parts of the globe participated in the four Safer City Streets webinars that we held last year.

The ITF has also been working with the FIA and the World Bank on establishing regional road safety observatories. Can you explain how the collaboration works and also detail the value of the information coming out of the observatories?

The role of our three organisations is basically that of catalysts. We complement each other in an ideal way to raise awareness of the importance of road safety, explain the value of using quality data, and generate demand from countries for a road safety focal point: a platform to collect the data, look at it together, learn from it, and exchange experiences using it. The World Health Organization has also joined the co-operation and will facilitate data collection. But the true secret of success has been to give ownership of the observatories to the regions.
In recent years we have put on track an African Road Safety Observatory and the Asia-Pacific Road Safety Observatory. These are two regions with rapid motorisation and horrific levels of traffic fatalities. Both have now adopted a set of crash data to collect as the basis for annual monitoring.
We have also seen an institutional strengthening of the Ibero-American Road Safety Observatory, launched in 2011.
Other regional road safety observatories are under development, in the Balkans, for instance. Looking back, we have made fantastic progress together – although when human lives are at stake, it can never be enough.



FIA-ITF road safety work in Latin American countries such as Argentina has produced positive results.

The ITF is also a key member of the FIA High-Level Panel for Road Safety. How important is such a forum in the development of new strategies to tackle the road safety pandemic?

The FIA High-Level Panel for Road Safety (HLP) is an extremely valuable forum. It has done so much to federate different players and activities in the fight to reduce the number of road deaths. What I value in particular is the HLP's focus on activating funding for road safety. Developing innovative and effective measures that save lives is all very well, but it takes financial means to get them implemented on the ground. And compared to the funds that go into combating deadly diseases, road safety, which is just as deadly, is still very much underfunded. Jean Todt understood that and attacked the problem head-on, as he usually does.
The second aspect that I really appreciate about the HLP is that it emphasises the role of the private sector and gives companies a voice in this debate. Road safety is too often seen as something governments have to look after. But there is so much that enterprises can do – as employers, as manufacturers or service providers, as customers. I always enjoy the exchanges with business leaders who participate in the HLP. I feel that there is a mutual inspiration in these discussions, and what better outcome could there be?

Dr Young Tae Kim, Jean Todt, Morocco's Mohamed Najib Boulif and the World Bank's José Luis Irigoyen at the launch of the African Road Safety Observatory in 2018.

Promoting environmentally friendly, sustainable transport solutions is a major area of activity for the ITF. In your mind, what are the swiftest routes to achieving a significant reduction in transportation emissions, and how is the ITF helping to raise awareness of potential solutions?

During the pandemic, we experienced a quick and simple route to cut CO2 emissions: just stop everything. But the economic and human cost was massive. On the other hand, traditional 20th-century-style transport also comes at a heavy cost – through environmental degradation, health impacts, and climate change. Decarbonising transport rapidly is the only way out of this dilemma. What we need now is a mega-shift to clean mobility, and that means primarily finding renewable, zero-carbon sources of energy.
We also need to focus on where and how we can avoid mobility without loss to make it superfluous. Teleworking is an obvious example; industrial-scale 3D printing is another. 'Fifteen-minute cities' can make car trips redundant. Too many trucks and ships run empty; cars carry only 1.4 people on average. So a lot can be done.
We must use all these levers now instead of waiting for a silver bullet that may never come. Also different regions, countries and cities face different conditions, and there is no one-size-fits-all approach. Only with a highly targeted approach will 'The Great Transport Transformation' be effective, sustainable and equitable.
The ITF has created the 'Transport Climate Action Directory', a database of emissions reduction measures and their effectiveness in different settings. It's a toolbox for our political leaders to choose the measures that work best for what they want to achieve. Of the signatories of the Paris Agreement, only 10 per cent list concrete CO2 reduction targets for transport in their initial national commitments. I hope that tools like our directory will give more governments the confidence to make concrete, quantifiable commitments in the run-up to COP 26 climate negotiations in Glasgow in November. Climate change cannot be stopped without decarbonising transport, and now is the time for full commitment.

The ITF is an intergovernmental organisation with 63 member countries that acts as a transport policy think tank for its members and organises the Annual Summit of Transport Ministers. ◂

A WORLD OF RACING EQUALITY

05

Last year, the Richard Mille Racing team brought an all-female crew to endurance racing's LMP2 category for the first time, competing in the European Le Mans Series. Now, in its second season, the project to raise awareness of female potential in racing is raising its game even more, by taking on the World Endurance Championship

TEXT
/
BRAD SPURGEON

'There are some amazing female drivers who just need the right tools to show what they can do'

AMANDA MILLE

Sophia Flörsch and Beitske Visser (below) are both relishing a return to Le Mans.

Judit Polgar, the greatest-ever woman chess player, who spent 26 years as the number one female and reached number eight among men in 2005, often said that her success was due – among other things – to playing in men's tournaments against the world's best players, rather than focusing on women's competitions.

Since a chessboard was the only equipment she needed to enter a tournament alongside men, this approach was always open to her. For female racing drivers who want to compete against the best male drivers in the world, things are more complicated: racing teams invest fortunes in their cars, and they want the best drivers to ensure it pays off. Unfortunately, women drivers are not usually considered as good as men, so they are rarely given the opportunity to race at the top level.

Until last year, that is, when the FIA Women in Motorsport Commission, the Richard Mille watch company and the Signatech racing team got together to create an all-women drivers' team to compete at the highest levels of endurance racing. Now in its second season, the Richard Mille Racing Team, with drivers Tatiana Calderón, Beitske Visser and Sophia Flörsch, is showing that the approach is paying off, as they quickly develop their skills and prove that they belong among the finest drivers in the almost-exclusively male category.

Last year, they raced in the European Le Mans Series and the Le Mans 24 Hours, where they finished ninth in the LMP2 class out of 24 entries and 13th overall. This year, in the same Oreca 07 Gibson car, they have moved up to the FIA World Endurance Championship, where they finished eighth at Spa-Francorchamps in May, and sixth at Portimão last month. They will again compete at Le Mans in August.

"Sometimes you have to align all the planets for a project to really get going," says Calderón, 28. "And it all came together nicely for us."

Talk with five key people in the team simultaneously – the three drivers, Amanda Mille, head of customer marketing of the watch company, and Philippe Sinault, owner of the Signatech team – and it is clear that their momentum is also due to a strong, and growing, team spirit. After their successes last year, these motor racing pioneers have a double mission in their second year: not only do they want to prove a point about women racing against men, they are all now driven by a common desire simply to win.

"Last year, our target was to create the foundation of this project, and to create a real team spirit, a real aim around the project, to create a dynamic," says Sinault. "This year we know the dynamic is still the same, that it increased a lot, and that this dynamic is the best tool for performance. I am proud to say today we have a good team and are in phase with our challenge, which is to be at the top in LMP2."

Their mounting success is also thanks to a synergy in spirit coming from the FIA Women in Motorsport Commission, with its enthusiastic assistance in the project.

"I know from my own personal experience that if you are driven to be the best, you have to compete against the best, male and female," says Michèle Mouton, Commission President. "Tatiana, Sophia and Beitske are up against the world's top competitors, and they are proving they deserve their place on the grid. As a Commission, we are working with more and more manufacturers and professional teams, highlighting the successes of our top female racers and helping to secure equal opportunities for them. It is key to their progression to be able to compete in a mixed environment and showcase their ability in the best machinery."

The Mille crew is enjoying the extra challenge of racing in the WEC, says Tatiana Calderón.

EXPECTING MORE

The Oreca 07 LMP2 car is, of course, just one level below the highest class, Hypercar, in this year's series. But with each of the female drivers also progressing from extensive careers in single-seaters, they believe LMP2 is proving to be a good match.

"This car has a lot of aerodynamics, so it's really similar compared to formula driving, style-wise," says Flörsch, who, at 20, is the youngest of the trio. "Compared to GP3, where I am also now racing – and which are slow in comparison – the driving style between single-seaters and the LMP2 is really similar. For sure, you have to adapt, and I also had to learn and still have to learn a lot."

As part of that learning process, the switch from the ELMS to the WEC this year is providing lots of challenges, according to Calderón.

"We have a different aero package – the Le Mans kit – that we have to run on every single track, and we have a different tyre manufacturer – Goodyear – so that changes quite a lot," she says (last year they used Michelin tyres). "We have a bit more torque but less power in the straight, and the cars are a bit heavier. So we have had to adapt our driving, adapt the car to suit these specifications, and on top of that the WEC has a bit less practice time than the ELMS. When you have to change so many things in your style and so many things in the car it's not easy, and I think the level is extremely high. There are some ex-Formula 1 drivers, some Formula E champions. But I think we would all agree that we love a good challenge."

The biggest challenge, of course, is the highlight of the season: Le Mans.

"Last year our drivers did a fantastic job," says Sinault. "All three were rookies and they did so well: no mistakes, no spins, no gravel, perfect copy. This year it is a little bit different because, firstly, it is the second time entering and they are really strong compared with last year. So for sure we expect a better result. My job is to provide the best package possible, to have no technical issues, to manage things well on the sporting side. But I am sure with the stronger line-up now we can dream about a really good result in this race. Because the quality of the women for sure will be a big, big advantage, especially for the Le Mans race."

Visser agrees: "Last year, Le Mans was definitely our highlight of the season. This year, I hope it will be our highlight again. It is definitely the race we are most looking forward to. We will just try to improve on last year. I think we can definitely do that. We have improved race by race so far this year. And we are strong together as a team, so our goal is again to make no mistakes and get a good result."

Flörsch sees a pattern already that could lead to a great result at Le Mans: "Spa was P8, Portimão was P6, so maybe if we keep going always two places better, we'll end up perfectly placed for Le Mans."

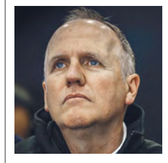
Mille, whose father Richard is president of the FIA Endurance Commission and has long sought a way to better involve women in motor sport, says she is looking forward to seeing the female crew receive a similar response from male drivers after Le Mans last year, when some approached them in the pitlane following the race and said that if all the men drove as cleanly as they did it would "be another world".

"When the best drivers come to say to a rookie 'well done,' while shaking their hands, I think a big part of the job for last year was done," she says. "So we just need to add a bit!"

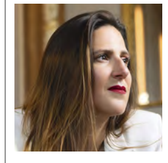
For the Richard Mille company, the objective has already been met in many ways, she adds, noting that the all-woman team matched the brand's philosophy, especially its passion for motor sport, and endurance racing in particular.

"The message which has been sent – and I think is being received properly – is that we've been treating all the products we have been creating, and the place that we give to ladies in the world of Richard Mille, in the same as we did for men," she says. "That's exactly what we are doing with this team. It's more the fact of recognising that today there are some amazing female drivers, but maybe they don't have the right tools in hand. And they need to have these tools to be able to show to the world what they are able to do."

Michèle Mouton is championing female racers on behalf of the FIA.



Signatech team boss Philippe Sinault wants to take the crew to the top in LMP2.



Amanda Mille gains satisfaction from seeing the female crew treated as equals.

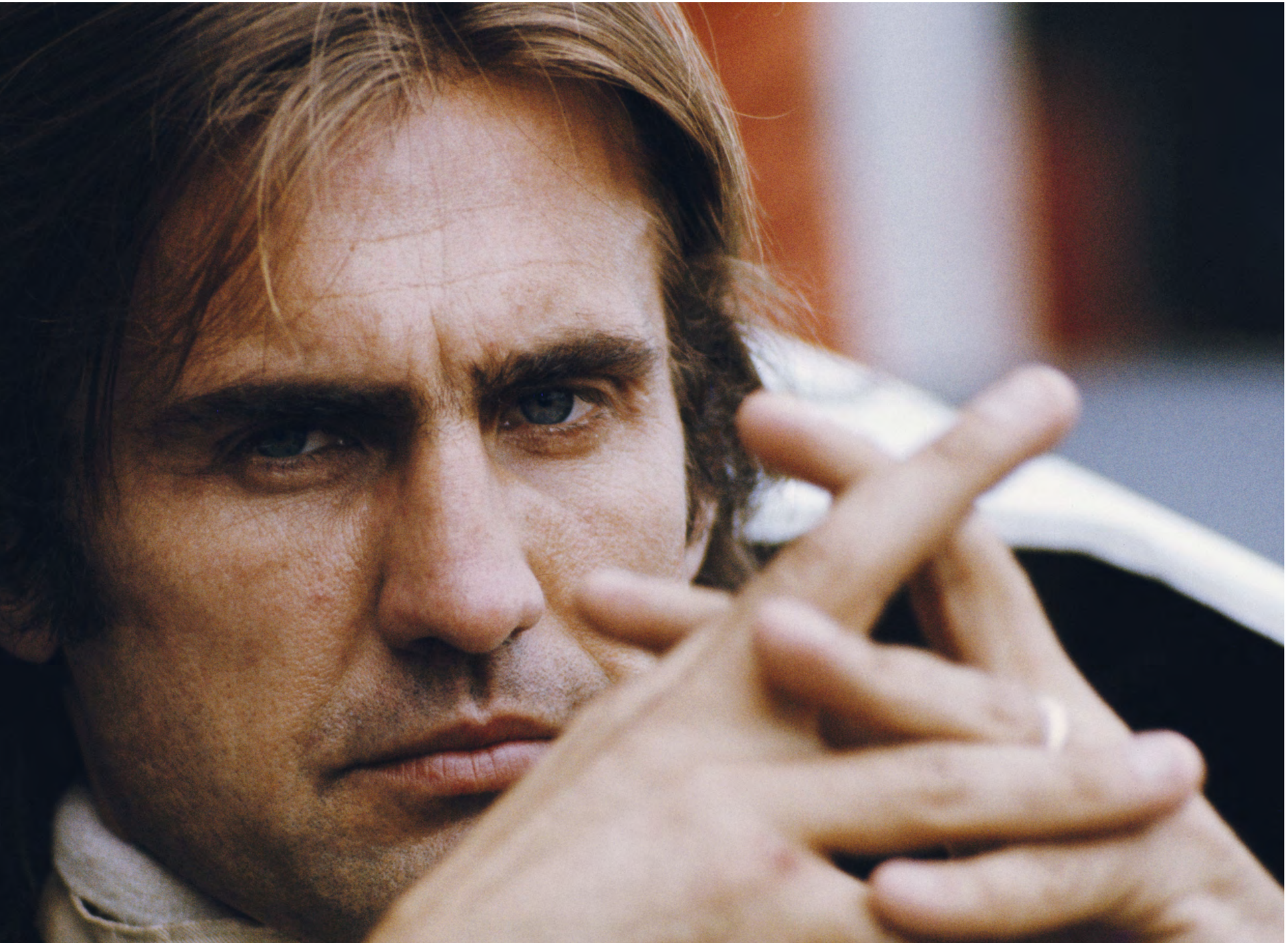
Calderón, who is also an ambassador for the FIA Women in Motorsport Commission, puts it this way: "We have raised awareness of this type of opportunity. I think there is a lot of female talent, but we have never really been given the right opportunities to perform at the highest level. And to have this trust from everyone who is working with us is a huge bonus for us and for the next generation as well.

"Now with everything that the FIA and the Women in Motorsport Commission has done with the Ferrari Driver Academy – Maya [Weug] was racing in Formula 4 – you have the Iron Dames as well representing us in GT, our team with the Richard Mille Racing Team, I think it's all opening the doors for us, for future generations, and to show it is possible and that things are changing."

And, as Mouton points out, there are still higher goals in the project.

"We all dream of seeing Tatiana, Sophia and Beitske on the LMP2 podium at the highest level of endurance racing," she says. "This is very much the aim and a goal that is achievable as they continue to develop and gain more experience."

Perhaps the success of the programme is best represented by Sinault when talking about how Signatech works with its drivers: "We have three women in the car, but in the end we work as usual. These are drivers, and really good drivers. They have done single-seaters so the base – and the technical base – of driving is there definitively, and we work as we worked in the past – and currently – with the guys and men. We don't care if they are female or not, we consider them first as drivers."



Carlos Reutemann came close to winning the F1 title before walking away from the sport.

06

CARLOS REUTEMANN:

Portrait of an artist

Elegant and extravagantly gifted *Carlos Reutemann*, who recently passed away at the age of 79, brought a rare artistry to the Formula 1 grid. But the Argentinian wasn't just a mercurial racer and his steely resolve almost took him to the title...

TEXT
/
TONY THOMAS

Fast, from first to last. Pole position on his debut and finally, ten years later, splitting powerhouse turbocharged Renaults with a non-turbo Williams in his penultimate grand prix.

A dizzying talent with a gift as natural as any that has graced motor sport, yet a shy, complex man who keenly felt real or perceived slights from his team. One for whom the daily blows of intra-team competition with Niki Lauda or Alan Jones were wearily infra dig.

This was Carlos Reutemann in Formula 1.

Cast as a commanding, intensely charismatic member of F1's élite cadre for a decade between 1972 and '82, Reutemann shone as a mercurial superstar whose top-team worth was never questioned. A 142-race career played out via Brabham, Ferrari, Lotus then Williams are proof enough of his standing.

His was not a straightforward racing narrative, however. Glory days such as victory by nearly 100 seconds at the 1975 German Grand Prix –

Reutemann won three times for Brabham in '74, including at the Österreichring, but felt unloved by the team.

held at the full-fat Nürburgring – have to be measured against his infamous capitulation at Las Vegas in '81, the race which should have made him World Champion.

And his steely win at the 1978 British Grand Prix, which he took after out-foxing Lauda 16 laps from home, are countered by mystifying fades, such as his '81 Canadian GP reverse, where a P2 start resulted only in his being lapped three times by eventual winner Jacques Laffite.

But despite that puzzling variability Reutemann's status as a true Formula 1 luminary is beyond question. His very fallibility only added to the fascination.

He stands perhaps alone for the sheer magnetism of his presence in F1 and rarely has a driver brought such artistry to the skillset of a grand prix racing driver. All touch, timing and precision, Reutemann at his best was the most balletic performer.

With that aesthetic came the complexities of an artistic temperament. For Reutemann was, in footballing parlance, a 'confidence player' – one who, when he felt unstoppable, was simply that. It's no coincidence that his second Ferrari season, 1978, settled and secure at Maranello alongside the emerging Gilles Villeneuve, was arguably his best year. As an Argentinian in a Latin environment, where human emotion was embraced rather than dismissed as mere weakness, Reutemann was more at home than at any other racing team.

That season is celebrated for champion Mario Andretti's indomitable partnership with the ground-effect Lotus 79. But the contribution of Ferrari and Reutemann, who placed third in the championship with four wins, was deeply impressive, given the Italian car's lack of ground-effect aerodynamics – the key to Lotus' speed. Indeed, Reutemann's points average over his seven scoring finishes was barely a quarter-point less than Andretti's from nine scores, lending a touch of nuance to the received wisdom of Lotus-Andretti domination. His 48-point haul confirmed Reutemann as best of the rest for 1978 and, happily for Carlos, placed him ahead of ex-Ferrari team-mate (and reigning champion) Lauda, now with Brabham.

THORNY DYNAMICS

Lauda and Reutemann, direct contemporaries and fellow grandees of their F1 generation, had endured a tortured season together at Ferrari in 1977. Lauda's antipathy towards Reutemann was rooted in Carlos' arrival at Maranello in the aftermath of Lauda's infamous Nürburgring '76 inferno.

During Lauda's two-race absence post-accident, Reutemann had been drafted in as his replacement, to drive alongside Clay Regazzoni, but neither Enzo Ferrari nor Reutemann had reckoned with the ferocity of Lauda's zeal to return to the cockpit. By the Italian GP Lauda was back to partner Regazzoni... and Reutemann, who appeared on that sole '76 occasion for Ferrari, in a third entry.

Lauda regarded the death-bed intrigue that had played out beyond his control or consciousness during his recuperation as a never-to-be-forgiven snub. And as Niki raced on with Ferrari through 1977, handsomely winning a second drivers' championship, Carlos' fate was to suffer the Austrian's wrath. When Lauda was asked pre-season by *Autosport* magazine's Nigel Roebuck if he considered Reutemann as team-mate or rival, Niki seethed: "Neither!"

This thorny dynamic was emblematic of Reutemann's Formula 1 career. With the exception of his apolitical alliance with the tyro Villeneuve, Reutemann's grand prix years were marked by fractious relationships with teams and team-mates.

At Brabham, where he enjoyed his first success and a breakout 1974 season – three top-drawer wins at Kyalami, the Österreichring and Watkins Glen – Reutemann would lament not feeling as loved as team-mate Carlos Pace. By 1976, when Brabham were racing with the sonorous-but-slow Alfa Romeo flat-12, Reutemann had become sufficiently disenchanted to buy himself out of his contract, in order to secure early release to Ferrari. Reutemann's departure marked a flaccid end to a partnership that only two seasons earlier had produced an enduring icon of motor sport: the image of a Reutemann blue-white-yellow lid nestled in the origami-crisp form of a white Brabham BT44.

His travails at Brabham and Ferrari were a mere amuse-bouche for what was to follow at Williams, where Reutemann alighted in 1980, following an abortive '79 sojourn at Lotus.

At first, the partnership was harmonious, thanks to a contract which stipulated Jones' position as team leader, in pursuit of the drivers' title. Five Jones wins later (plus a single victory for Reutemann) and with both drivers' and constructors' titles nailed, all seemed rosy in the Williams garden.

Except... Reutemann didn't see it that way, as became evident from 1981's first skirmishes. He won a non-championship curtain-raiser at South Africa's Kyalami circuit, then led the season-opener proper, at Long Beach, before a slip that let Jones through to win.

Undaunted, Reutemann aced the next round at a soggy Rio, though in circumstances that would pass into grand prix lore. Notionally, Reutemann remained Jones' wing-man, but his pure pace was causing trouble for his team leader, as had Ronnie Peterson's for Mario Andretti at Lotus in '78, and as would Nigel Mansell's for Nelson Piquet at Williams a few years later.

Reutemann qualified P2, 0.3 seconds behind pole man Piquet, but almost a second clear of Jones.

Off the grid Reutemann, with just a hint of a jump-start, got the drop on Piquet, who fell to fourth behind Riccardo Patrese, then Jones. On lap two Jones slipped ahead of Patrese and began his pursuit of Reutemann, a second or so up the road. He didn't chase too hard, comfortable in the knowledge of his contractual advantage. As the laps ticked by, however, neither car missing a beat, neither driver missing an apex, Jones' comfort turned to angst. In the Williams garage team boss Frank understood exactly what was happening: the world was watching a pure-bred racer doing what he did best – racing, *winning*. And stiffing his supposed team leader in the process. ▸

'If I give way, I thought, I stop the car now, in the middle of the track. Finish. Not a racing driver anymore'

CARLOS REUTEMANN

Reutemann finished third to Lauda at Monaco '77 (left), when the pair endured a fractious relationship as Ferrari team-mates.

Taking matters into his own hands, Williams grabbed a pitboard stating 'JONES-REUT' and scurried to the pitwall, to hang the board out over the circuit, right in the sight-line of his sparring drivers, so that the neither could be in any doubt as to the intended finishing order.

Reutemann ignored the command, completed his 62nd lap in the lead and took the chequer. He returned from the podium (Jones absent) to encounter a glacial atmosphere in his garage and was subsequently fined by Williams. On this day, however, no amount of rain or domestic froideur was going to dampen the Reutemann parade and he later flaunted a 'REUT-JONES' pitboard of his own, with gleeful abandon.

In Nigel Roebuck's seminal *Grand Prix Greats*, he related: "Jones had reason to be upset. I can't disagree with that. And it did affect our relationship afterwards. I saw the pit signal three laps from the end and I knew the terms of the contract. But still I was in a dilemma. From the beginning of my career I always started every race with the intention of winning it, but now I was being asked to give it away, just like that. 'If I give way,' I thought to myself, 'I stop the car here and now in the middle of the track and leave immediately for my farm in Argentina. Finish. Not a racing driver any more.'"

A line had been drawn: Reutemann's actions had broadcast that he was in this championship to win for himself and he seemed set on doing just that. His car, the Williams FW07C, was the class of the field and at his best, so was Reutemann.

NO PRIZE DRIVE

After finishing second at the British GP, round nine of the '81 season, he had carved out a seemingly unassailable 17-point advantage over next-up Piquet. In this ultra-competitive era of F1, with 'old-money' points (just nine for a win), it seemed inconceivable that he could fail to be champion.

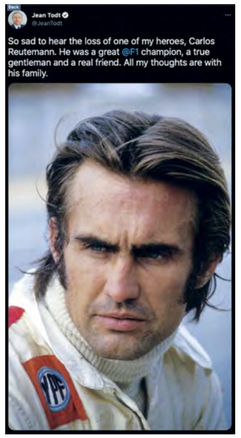
That was to reckon without the complexities of this most enigmatic genius. He would score only six more points over the next six races, but even at the season finale, in Las Vegas, the title seemed to be offering itself up to Reutemann. Pole position was his, comfortably, from Jones, with Piquet in fourth. Carlos needed only to cruise and collect for the world drivers' title.

It was not to be. Despite having no obvious car problems, he slumped to eighth, pointless, while Jones won and Piquet, barely conscious at the end of a race held in stifling humidity, hung on for fifth and the two points that made him champion.

That a driver might snatch apparent defeat from the jaws of victory in such a manner is incomprehensible from the data-driven perspective of 21st-century sport. Forty years ago, however, Reutemann appeared simply to have concluded that, with the goal of his life's quest in his palm, he no longer wanted it. Perhaps proving to himself that winning the title was achievable had been enough. That done, the actual doing of the deed, the consummation, seemed suddenly, somehow, irrelevant.

Settled at Maranello in '78, Reutemann won four times for Ferrari and was third only to the ground-effects Lotus.

The initially harmonious partnership with Alan Jones at Williams soon turned sour... And (below) FIA President Jean Todt pad tribute to Reutemann.



...Culminating in team order controversy at Rio in '81. Above: The title was Carlos' for the taking at the end of that season, but he inexplicably missed the mark at Vegas.

'Carlos was bloody quick on his day. But he was also very temperamental'

ALAN JONES

His team-mate/antagonist Jones keenly remembers his seasons with Reutemann, though ungraciously: "Carlos was bloody quick on his day," he recalls, "but he was also very temperamental. If everything wasn't 100 per cent [Jones whistles and mimics Reutemann's Latin intonation]: 'Frank, for me, I have a big problem, I have an ingrown toenail' or something."

Reutemann called time on his F1 career at the end of 1981, before being lured back by Frank Williams for '82, when Jones also quit during the off-season without notice.

Briefly motivated, Carlos starred at the season-opener in South Africa, to split the more powerful Renaults and place second. Just one more race was enough, though, and after the Brazilian GP, Reutemann left the stage without drama to build a future life in Argentinian business and politics. He had grown tried, he admitted, of driving the ground-effect generation of cars that lacked feel or finesse. Racing for racing's sake, without fun or passion, could never be enough for a man of Reutemann's cut.

Less blessed drivers have won the F1 title; few have driven a grand prix car with such effortless panache. A steelier soul with Reutemann's gifts might have secured multiple world titles. It is doubtful they would have been so feted. ◂

06

TEXT / JOE SAWARD

Going Dutch

In September, Formula 1 will return to the Netherlands and Zandvoort for the first time in more than three decades. AUTO looks back at the history of Holland's challenging seaside circuit

There was a time when people believed that going to the seaside was good for your health. The salty air and the stiff sea breezes, and occasional dips in the sea, were deemed to be good for the constitution.

The first seaside resorts appeared in England in the 19th Century as the social influencers of the era – Europe's royals and aristocrats – set the trend by going to the coast rather than visiting spa towns.

The fishing village of Zandvoort was among the forerunners with the first big hotels being opened in the 1820s. There followed a series of grand buildings and elegant villas, but it was when the railway arrived in 1881 that development really took off. Three years later, on the advice of her physician, the Austro-Hungarian Empress Sisi visited Zandvoort.

By the 1930s, the pressure to develop led to new roads being laid out to the north of the town for future housing and the mayor Henri van Alphen proposed that Zandvoort use these streets for a motor race, which would be the first proper race to be held in the country.

The Prijs van Zandvoort in the summer of 1939 was such a big deal that even HRH Prince Bernhard turned up to watch the sports car events, although the crowd was thrilled by demonstration runs of Grand Prix machinery, with Manfred von Brauchitsch in a Mercedes-Benz W154 and Hans Stück driving an Auto Union Type C streamliner.

Within a matter of weeks, World War II began. Holland was soon invaded by Germany and in 1942 the beaches of Zandvoort were declared off-limits by the occupation forces. ▸

The Renaults of Arnoux and Prost lead at the start of the 1982 Dutch GP, which would be Didier Pironi's (28) final F1 win. Right: the race in 1951 was the last non-championship GP.

The town was evacuated and the beautiful Belle Epoque mansions and hotels were torn down to make way for a network of coastal defences, known as the Atlantic Wall, designed to stop the Allies using the beach for amphibious landings.

While upset by the destruction of the town, the locals realised that the roads which the Germans created to link the different fortifications might one day be used for a new permanent racing circuit. Van Alphen returned as mayor in 1945 and, working with race organiser John Hugenholtz and former Le Mans winner Sammy Davis, a circuit was designed. It was a terrific track with elevation changes, unusual cambers and tricky corners, including the superb Scheivlak, a downhill right-hander out in the dunes. There was a long fast right-hander on to the main straight that led to the 180-degree curve called Tarzan, a corner for the last of the late-brakers...

The new track was ready in August 1948, with the first international race taking place a year later. Billed as the Zandvoort Grand Prix, this was a Formula Libre event won by the Maserati of Prince Bira. There would be three non-championship F1 races, including the first Dutch Grands Prix, before the FIA granted the race World Championship status in 1952. Alberto Ascari won for Ferrari, a result that would be repeated the following year.

In the early years the race did not happen every year because finances were a problem, but there was a Mercedes one-two in 1955 and then a victory for Stirling Moss in a Vanwall in 1958. A year later Jo Bonnier gave BRM its first Grand Prix victory after seven years trying. It was the Swede's only F1 win.

Jack Brabham won for Cooper in 1960 but Dan Gurney crashed and killed a spectator who had strayed into a prohibited area.

TALENT SHOWS

Zandvoort was soon known as a driver's circuit, where the man behind the wheel could make a big difference, a fact that is highlighted by the list of Dutch GP winners: Jim Clark having won four times and Jackie Stewart and Niki Lauda three apiece.

Clark dominated the early 1960s and in 1967 won his fourth victory, giving the Lotus 49 and the Cosworth DFV victory first time out. Three years later, Jochen Rindt gave the Lotus 72 its first win, although there was tragedy that year when Piers Courage was killed in a fiery crash out in the dunes.

Jacky Ickx won in the wet for Ferrari in 1971 but the following year the race was called off as the drivers refused to take part because of the safety standards. Work was done to improve the track but there would be tragedy again in 1973 when young British driver Roger Williamson was killed.

Despite the crashes the over-riding memories of racing at Zandvoort are still happy ones; of standing on the tallest dune in the centre of the track and being able to see most of the action; of brisk winds coming off the North Sea, and of eating *frites* with mayonnaise.

The on-track action was usually spectacular with a dramatic and unexpected victory in 1975 for James Hunt, driving for Hesketh.

Ferrari fans will remember Zandvoort in 1979 for Gilles Villeneuve driving a lap of the track one-handed, while on three wheels, after a spin caused by a slow puncture while he was leading the race.

The lack of run-off at Tarzan became a problem in the early 1980s when Derek Daly's Tyrrell suffered a suspension failure there in 1980 and was launched into the air by the tyre barriers, thankfully without injury, while two years later René Arnoux had a similar accident in his Renault. Tarzan would again be the scene of drama in 1983 when Alain Prost made a rare mistake as he tried to pass title rival Nelson Piquet, sliding into the Brazilian and sending him into the barriers.

Jackie Stewart and Niki Lauda were triple Zandvoort winners, including in 1968 (left) and 1974 (above).

Two years later, in 1985, Prost and his McLaren-TAG team-mate Niki Lauda fought for victory with the Austrian winning by just 0.232 seconds. It would be Niki's last win and equalled Clark's total of 25 victories.

Zandvoort ran out of money after that and, faced with increased complaints about noise, the local council decided to sell half the land for a holiday park and use the money raised to build a shorter version of the original track. There was no money to pay for Formula 1, but Zandvoort remained an active venue with the major event each summer being the Formula 3 Masters race.

The rise of Max Verstappen sparked renewed desire for F1 to return to the Netherlands and new investment was found to modify the circuit to make overtaking possible for F1 cars. The only solution was to create some banked corners, with 18-degree banking in Turn 14 and 19-degree banking in Turn 3. It impressed Verstappen when he tried the circuit in 2019.

"The track is really cool – especially Turn 3, where the banking is amazing," says Max. "I didn't expect the banking to be that big, but it's really cool to drive an F1 car on it. The whole track is very demanding. There are a lot of fast corners and still not that much run-off. That makes it really challenging to go on the limit. But that's good. That's what we like."

Sadly, the race planned for 2020 was called off because of the COVID-19 pandemic, but the grandstands will be heaving with orange-clad fans when F1 turns up this summer. ◂

'The track is really cool – especially Turn 3, where the banking is amazing'

MAX VERSTAPPEN

Zandvoort circa 2021 has won Max Verstappen's seal of approval ahead of the September race.

FIA FAMILY

07

Advocating for Sustainability

TEXT / GARETH MANNING

Blessed with one of the world's most beautiful environments, the Jamaica Automobile Association is determined to keep it and the country's people safe, now and in the future

Jamaica may be a small island but road safety is still a big concern for the JAA.

The JAA runs driving programmes such as this one based in Swallowfield, St Andrew.

JAA supporters have staged marches to campaign for safer driving practices.

Jamaican Prime Minister Andrew Holness opens the Road Safety Hub at Police Traffic Headquarters in Kingston in 2017.

Below: The JAA provides roadside assistance and supports the Road Safety Hub at the Police Traffic HQ in Kingston (right).

Unlike many motoring clubs in the country and across Latin America and the Caribbean, the Jamaica Automobile Association (JAA), a member company of The Jamaica National Group, has for decades positioned itself as more than a drivers' club.

Established in 1924, for nearly 100 years the JAA has been and continues to be an influential player in road safety in Jamaica.

Similar to its parent organisation the JN Group, the mobility company is resolute about positively affecting the lives of its members – a philosophy that has influenced the products and services it provides.

"At its core, the JAA is an advocate for sustainability," explains Earl Jarrett, President of the organisation and its visionary. "It's an advocate that offers a range of services to its members so that they can travel confidently and safely, while at the same time obtaining the economic benefits to be derived from mobility."

Operating in an environment in which more than 400 people die each year in motor vehicle accidents and almost twice as many are left with lifelong injuries, the JAA has been integral to the development of a number of innovations in road safety, all targeted at educating and improving behaviour and practices among road users in order to save lives.

Over the years these innovations have included the Road Safety in Schools programme, which the JAA has pursued for more than two decades, and the launch of crash mapping – a first in the country's history – which was pursued in partnership with its sister company JN General Insurance (JNGI) and the Mona Geoinformatics Institute, a research arm of The University of the West Indies.

This project spurred the development of the Crash Hot Spots campaign by JNGI to raise the motoring public's awareness of dangerous areas in Jamaica's road network, and also the establishment of the state-of-the-art Road Safety Hub in 2017. Manned and housed at the Jamaica Constabulary Force's Traffic Headquarters in the capital, Kingston, the hub provides the police with real-time data on traffic incidents, particularly crashes.

"These innovations have extended to the very services the JAA offers," explains Jarrett. The services go beyond the club's roadside assistance and accident scene management, fleet management, Advance Card for fuel purchases, and valet and chauffeur services to include driver education and a comprehensive driver improvement programme.

"Effecting road safety requires being involved at both ends of the scale: you have to provide the services to react to incidents quickly and also support their prevention through education and behaviour change intervention," adds Jarrett.

Over the years the JAA has expanded its services to include support with disaster recovery, to ensure roads in Jamaica are safe following severe weather events such as hurricanes and tropical storms so that citizens can maintain access to services.

Earl Jarrett, JAA President, at the launch of the club's Approved Auto Repairers Programme.

Led by a capable and qualified team that includes General Manager Wendell Smith – a tech innovator and former general manager of MC Systems, Jamaica's premier tech company and a JN subsidiary – the JAA has maintained its role as an advocate for safe roads and sustainable development throughout the COVID-19 pandemic, providing an expert and round-the-clock service to its members.

"As with any movement, our vision for the future is to expand our membership and the services we offer," says Smith.

NEW VENTURES

Prior to the pandemic, the company had begun expansion into the travel market, and as that sector recovers, the organisation says it will continue to expand in that area in the medium term.

Smith adds that the JAA will also be strengthening its foray into sustainable energy.

"Transportation is the third largest contributor to the Jamaican economy, and tourism our highest income earner, therefore there is much to garner by increasing our support in these areas," he says.

"Our future rests on our use of energy and as a result sustainable mobility is another area in which we are engaged as we support the island's main electricity supplier to bring electric vehicles to market."

At the same time the JAA is continuing its advocacy for safe roads and Jamaica's sustainable development, relying on its various partnerships and networks to deliver information and training to road users.

These include its support of the FIA's pilot project, the Safe & Affordable Helmet Initiative for motorcyclists, a group within which there has been an alarming increase in deaths and injuries in Jamaica over the past five years. The innovative FIA project is being implemented in collaboration with the National Road Safety Council (NRSC). Motorcyclists have consistently accounted for 35 per cent of road fatalities according to the Road Safety Unit of the Government of Jamaica's Ministry of Transport and Works.

And through club President Jarrett, the JAA maintains a seat on various boards and committees that promote road safety and advocacy, among them the FIA World Council for Automobile Mobility and Tourism and the local NRSC.

"The JAA remains committed to promoting sustainable development through safe and clean mobility," concludes the JAA President. "We believe strongly that through continued advocacy, we will achieve safer roads in Jamaica and better opportunities to thrive." ◂

'The JAA remains committed to promoting sustainable development through safe and clean mobility'

EARL JARRETT, PRESIDENT, JAA

Police shared road safety advice with children as part of the JAA-backed Road Safety in Schools Programme.

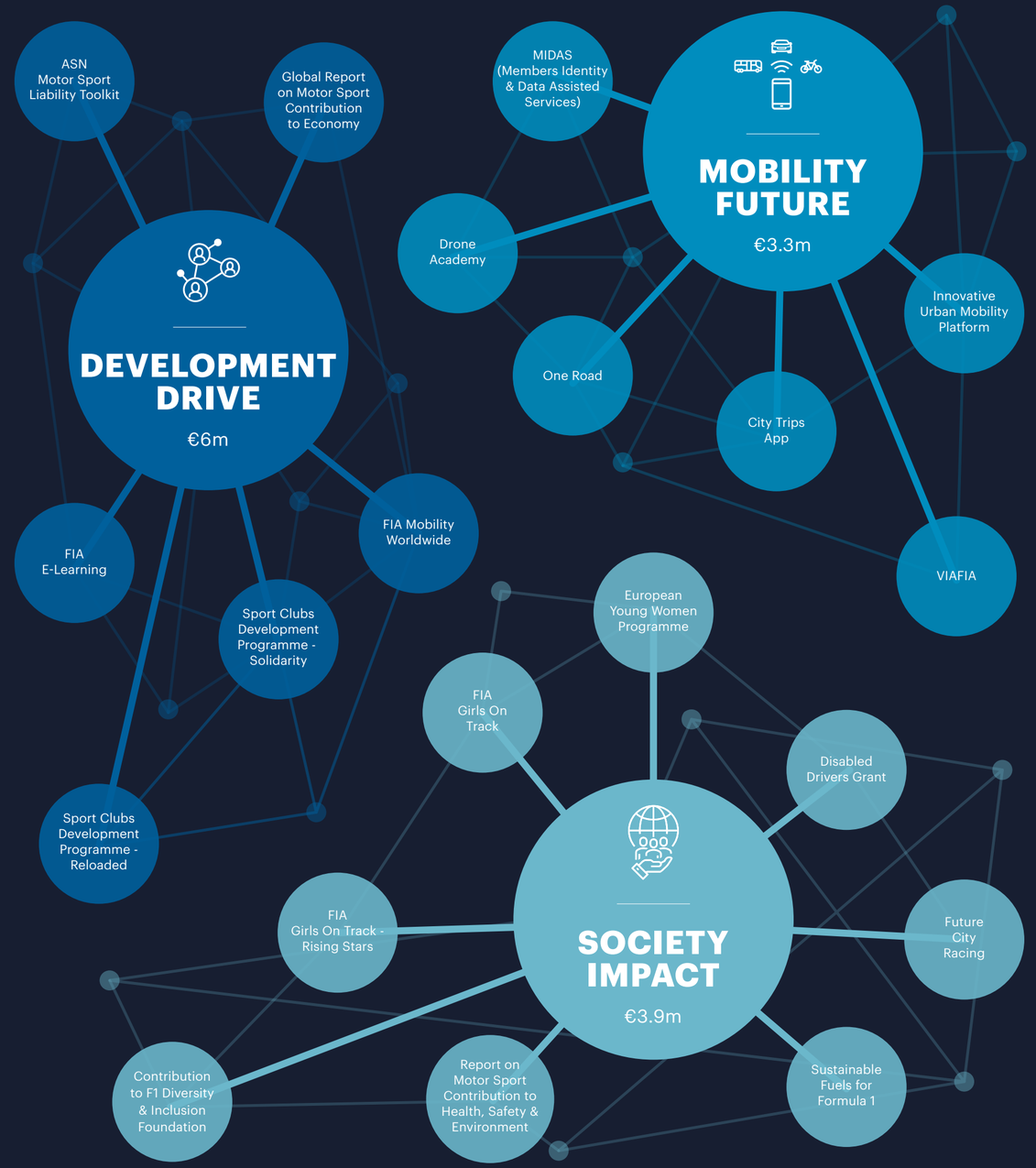
08

Innovation Constellation

The FIA Innovation Fund has spawned a galaxy of projects, aimed at developing sport and mobility worldwide

The Fund backs projects across five key areas: Sporting Ambition, Safety Quest, Development Drive, Mobility Future and Society Impact.

It has so far invested over €30 million across 37 projects, including the development of an impact data recorder for grassroots racing and the creation of a mentoring programme for mobility clubs worldwide. Expect more to come as the Fund backs further projects in the near future.



Mission impossible 09

In Formula 1: The Impossible Collection, writer *Brad Spurgeon* has catalogued a visually stunning list of 100 of the sport's greatest moments. He explains the difficulty involved in distilling seven decades of history down to 100 iconic images

Formula 1: The Impossible Collection is hugely impressive, quite literally in terms of the book's size. How did the project come about?

The Impossible Collection by the Assouline publishing house is a series in their top line of 'ultimate' books, each about a subject seen through a list of 100: the world's 100 greatest golf courses; 100 great moments of American football etc. Martine Assouline – who founded the company with her husband, Prosper – is a friend of FIA President Jean Todt and she asked him to recommend a writer to do a book about Formula 1. Jean suggested me and I jumped at the offer, feeling a wonderful synergy between this publishing house with its oversized, extraordinary, 'impossible' book concept and the world's most oversized, extraordinary and impossible-seeming motor racing series.

What criteria did you use to choose the 100 great moments from Formula 1's first 70 years?

My first step was to read several other Impossible Collection books to see what kind of moments had made it into other lists. Using those as my guide, I decided that I had to choose moments in F1 history that stood out in an impossible way, or that had a long-lasting or important effect on the series' development. They would also most often express some greatness of the human spirit or achievement.

Were there moments you had to cut that caused you pain?

Absolutely. I made a shortlist of 150, and narrowed that down through either elimination or sometimes by combining moments together – like the two title-deciding crashes in Suzuka between Alain Prost and Ayrton Senna in 1989 and 1990. Some I loved but couldn't get in anywhere, such as the one at the 1986 German Grand Prix at Hockenheim, when the top four cars all ran out of fuel at the end of the race. Prost began to push his McLaren over the final metres towards the finish line. However, part of my decision to delete it was that there was the similar but even more astounding moment in 1959 when Jack Brabham pushed his car across the line at Sebring, which enabled him to win the drivers' title.

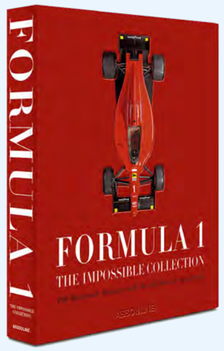
Which moment resonates most strongly for you?

Moment 83, the French Grand Prix at Magny-Cours on July 21, 2002. With six races left in the season, Michael Schumacher won his fifth drivers' title, his third for Ferrari, and equalled Juan Manuel Fangio's record. For 45 years no one had thought it possible that a driver would do that. The photo crosses two pages and it is a transposition of two photos by Bernard Asset, of Schumacher in his Ferrari that weekend and of a full moon low in the sky above the car, seeming to say: "The moon is the limit!"

Finally, during the writing process, was there anything that surprised you or presented an unexpected challenge?

I completely underestimated the amount of work involved in writing the captions for the 100 moments! I had thought the heavy-lifting would involve the choice of moments and writing what became a 65-page introduction. But when I sat down to do each 100-word caption, I realised how full of facts each had to be. Everything from the precise date of the event, to the length of a track at the time, age of the driver, number of spectators present... Previous statistics had to be checked many times over!

BRM's Peter Gethin (left) beats Sweden's Ronnie Peterson (centre) to win the 1971 Italian GP – one of F1's closest finishes.



Formula 1: The Impossible Collection – 100 Memorable Moments in the World's Favorite Motorsport is published by Assouline and is available at assouline.com priced at $995, €920 and £775.

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