A STAGE THEY'RE GOING THROUGH
The FIA is helping to develop the rally champions of the future

THE INDUSTRY STANDARD
After 15 years as the arbiter of new car safety, where next for Euro NCAP?

THE SAFEST SEAT IN THE HOUSE
How a Beirut University launched the world's first chair in road safety

MAPPING THE PATHS TO GLORY
Grand Prix great Gerhard Berger on why the route to F1 must be simplified

INMOTION

The international magazine of the FIA

THE GOLDEN AGE OF MOTORING

With senior citizens soon expected to make up 30 per cent of the driving population, are we prepared?

INSIDE

Dear Friends,

As you all know the Federation is actively involved in road safety across a number of areas. One that is often overlooked is the rising challenge of an ageing population in developed countries. Older people are driving in greater numbers than ever before, in cars and on road systems that have not been designed with them in mind. We have therefore made this our cover story, examining this issue from a number of viewpoints. You will find some interesting solutions to some of the problems raised by this demographic challenge.

Elsewhere, we celebrate 15 years of Euro NCAP. The work of this pioneering body, supported by the FIA, has immeasurably advanced the cause of road safety since its first crash test results were released in 1997. Its work is just as relevant today, and with plans well in train for a global network of NCAP organisations, we can look forward to a world of safer motoring in the coming decades.

Still on the subject of road safety, we look at the interesting and innovative proposals many clubs have put forward on this matter and we list the best, those which have been the recipients of FIA grants for their efforts.

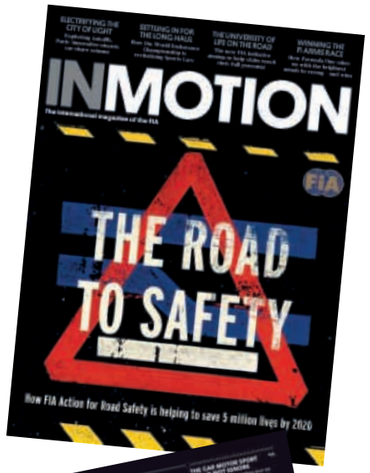
On the sporting side, we talk to Gerhard Berger, former F1 driver and now President of the Single Seater Commission, on how we can best create a logical path for aspiring drivers from karting all the way to F1. We also look at the FIA's WRC Academy, where, as part of our commitment to this exciting branch of motor sport, the champions of the future are instructed on how to become all-round top athletes and drivers.

I do hope you enjoy this issue of InMotion, our last, as we will be focusing on a new magazine, one that brings together the best from the FIA, the FIA Institute and the FIA Foundation. For more on this, please turn to page two.

Best wishes,

ONE MAGAZINE FOR THE WHOLE FIA FAMILY

Later this year the federation will launch a new magazine aimed at bringing together the knowledge, inventiveness and resources of the FIA, the FIA Insititute and the FIA Foundation, as President Jean Todt and President Gérard Saillant explain



Since I became President I have wanted to bring together the knowledge, expertise and enthusiasm of the FIA, the FIA Institute and the FIA Foundation.

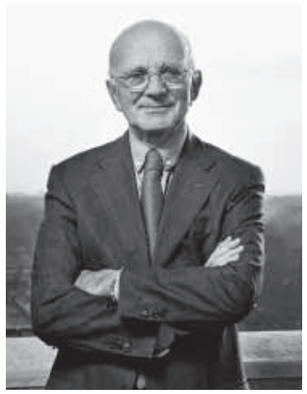
With this in mind, I'm pleased to announce that the FIA will soon be launching a brand new magazine so as to better reflect the growing collaboration, synergy and development which bonds the FIA Institute and the FIA Foundation to the FIA.

The new magazine will be a significant step towards harnessing and harmonizing this energy. By communicating the often vitally important work done by all the federation's institutions, for example in the field of safety, both on the track as well as on the roads, the FIA will be engaging its family of stakeholders, the automotive world and all the other players in the arenas of motor sport, transport, safety, sustainability and beyond.

Building on the success of the FIA's InMotion and the FIA Institute's IQ, the new publication will bring together the best of both magazines, combining the talent, inventiveness and resources behind each publication.

The content of the magazine will be overseen by an editorial board made up of FIA Institute President Gerard Saillant, his Special Advisor Richard Woods, FIA Director of Communications Norman Howell and supervised by me.

I feel this is a significant step forward in the progress of the FIA in engaging its resources so as to better communicate to the world of motor sport and mobility what we do, how we do it, and why we do it.
Jean Todt, FIA President



We are delighted to be able to offer a magazine that will now combine the best features from across the FIA family. The joint publication will provide a unique forum for informed debate with exclusive content driven by the most recent developments across the motor sport and motoring sectors.

It will build upon the successes achieved by IQ and InMotion over the past year. IQ was launched by the FIA Institute in March 2011 as a publication that would not only report on its own groundbreaking work but also take an intelligent look at the major issues in motor sport and motoring. It soon became a must-read publication and an important communications tool for the Institute. IQ was unique in not just examining the technical side of the sport but doing so with stylish photography and illustrations. It reached far beyond the 4,000 copies that were distributed to motor sport stakeholders each quarter, with articles finding strong traction on the web.

Soon after IQ launched, the FIA also re-launched InMotion. Neatly designed, well-written and with strong production values, the new InMotion was also extremely well-received by FIA members and stakeholders. It brought together news, features and interviews from the FIA network around the world, informing members of important projects across the organisation.

The joint publication will continue to expand on these successes with a quarterly magazine that will demonstrate all that is unique, important and worthwhile in both motor sport and motoring.
Gérard Saillaint,
President FIA Insitute

INFOCUS

FIA NEWS JULY 2012

"There is one golden rule for me and that is when you get in your car your first action must be to put on your safety belt. Without doing this I would feel naked in the car." ***Seven-time F1 world champion***
Michael Schumacher endorses the FIA's 10 Golden Rules for Safer Motoring

Todt and Schumacher take centre stage at FIA Conference Week

A highly successful FIA Conference Week in Prague was used by FIA President Jean Todt and Formula One champion Michael Schumacher to deliver the FIA's safety message to over 15,000 Czechs

PRAGUE Attending the Road Safety Day organised by Czech club UAMK as part of its hosting of FIA Conference Week recently, FIA President Jean Todt and special guest Michael Schumacher highlighted the federation's 10 Golden Rules for Safer Motoring, urging the Czech people to embrace the FIA's road safety guidelines in a bid to reduce road traffic fatalities and injuries in the country.

Road Safety Day saw Prague's historic Wenceslas Square transformed into a traffic safety showcase for a day, and addressing a 15,000-strong crowd at the event, President Todt reminded the Czech public that road safety is the concern of everyone. He added that the FIA's Golden Rules are especially relevant to young drivers and he said that education on road safety was of paramount importance.

Joining the FIA President on stage, seven-time Formula One champion Schumacher also referenced road safety education for the young in his message to the crowd.

"For all you young people who are sometimes maybe feeling a little overconfident on the road, you should think about who else is out there at the same time - pedestrians and other drivers," he said. "We need to look after them as well as ourselves."

Later, at a press conference for local media, Schumacher said that no matter how skilled a driver you may be there is always room for improvement.

"I'm lucky in that I know a little bit about how to drive but still I know there is always potential to improve safety on the roads, through awareness, better driving skills and also simple things such as safety belt use.

"I think the FIA has taken the initiative on this with its 10 Golden Rules, which give you some very simple guidelines on how to drive safely," he added. "There is one golden rule for me and that is when you get in your car your first action must be to put on your safety belt. Without doing this I would feel naked in the car."

President Todt also took the opportunity of the week in Prague to take the safety message to the corridors of power at a meeting with Czech President Vaclav Klaus, organised by local club ACCR. He presented the Czech leader with a FIA Action for Road Safety-branded Schuberth helmet and briefed President Klaus on the Golden Rules.

Taking the theme of 'Changing Gears for the Future' Conference Week itself utilised a shorter, more targeted schedule of meetings, workshops and activities that saw delegates move from a first day of orientation to a strategy-focused day followed by a day of teamwork-focused workshops that allowed delegates to learn about new initiatives and development opportunities, all while sharing their own experiences. The final day was given over to a presentation by the FIA University and the closing ceremony.

In his opening speech to delegates, President Todt said that the federation is to increase its commitment to member organisations in the future.

"Over the next few years we will place a greater focus on how we can communicate with our members," he said. "I have challenged the FIA Mobility department to add 'club care' to their two existing areas of focus - public policy and services."

The following day saw delegates treated to two keynote addresses. The first, entitled 'Future Trends in Mobility, was delivered by strategic development expert Michael Gallis. He told delegates how in a time of rapidly changing global mobility clubs are being presented with great challenges but also great opportunities. The challenge, he said, was to find innovative ways of thinking and he added that the opportunity to do so exists in shared experience with peers and colleagues around the world.

In the second address, 'Future Trends in Membership', business and communications consultant Larry Hochman focused on how clubs could get the most out of the opportunities presented to them. Success, he said, will be best realised by properly engaging with members and communicating with them constantly.

As he explained: "It's not about customers being loyal to you, it's about what are you doing to be loyal to your best customers, gauging what they want and need."

Day three saw the conference divide into a series of 16 workshops, all of which offered delegates the chance to explore new thinking and to learn from the experience of colleagues from around the world.

Other activities during the week included a visit to Skoda's major manufacturing facility in the Czech Republic for a glimpse into the future of the automobile, a glittering gala dinner and also a well-received workshop from the newly constituted FIA University.

Titled 'Smart Advocacy', Luis Vives, Director of International Education and Professor of Strategy at Madrid's ESADE business school, explained that even though a club's cause may be worthy, it is not guaranteed to succeed and he helped delegates understand how they can best campaign at government level.

SAFETY FIRST

UAMK Road Safety Day in Prague saw President Todt and Michael Schumacher address both a 15,000 crowd (top left). Elsewhere, the unique event gave the public a chance to get involved in a range of road safety-themed demonstrations, and informational exercises.

Ben Sulayem honoured with doctorate

BELFAST Mohammed Ben Sulayem, the President of the Automobile and Touring Club of the UAE, has been granted an honorary Doctorate of Science by the University of Ulster in recognition of his services to sport, civic leadership and charity. Ben Sulayem has been the driving force in the establishment of a Bachelor's degree in Sports Management for Emirati students in a link-up between the Higher Colleges of Technology in the UAE and Ulster *(see feature, pages 38-41)*.

One of the goals of the course is to give young Emiratis a chance to study in the UAE for a university degree offering the prospect of key roles in the country's planned future as one of the world's leading sporting destinations.

Ben Sulayem, who is also vice president of the World Motor Sport Council, received the honorary doctorate during a colourful graduation ceremony which also saw 500 university graduates earn their degrees in front of the Lord Mayor of Belfast, Gavin Robinson.

Addressing the students Ben Sulayem said: "You're now ready to embark on the next phase in your life. Aim high, and enjoy it. The fact that I stand here before you in Belfast demonstrates the great power of sport. How else would this UAE national be here today but for a career as a sportsman and a relationship with Ireland stretching back over 30 years? Sport has forged strong links between us. Sport keeps us together. It breaks through barriers."

Eurotest: service stations still failing families and the disabled

BRUSSELS The EuroTest inspection of Motorway Service Areas has delivered its findings for 2012 after visiting 65 motorway service areas and truck stops in 13 countries in January and February of this year.

The latest study, the 12th such test, revealed that more than half of service stations surveyed attained a rating of 'good', while 27 were deemed to be 'acceptable'. This compared favourably to last year's study, when slightly less than a third of the stations tested were rated as good.

However, despite improving results, inspectors reported that there remain serious problems with high prices, low pedestrian safety in outdoor facilities and, in particular, a real lack of quality services for families and for the disabled.

Through EuroTest - an international testing programme for consumer protection - 18 automobile clubs in 17 countries, members of the FIA, have been putting the quality and safety of mobility in Europe to the test since 2000 for the benefit of their members and all mobile consumers in Europe.

Each inspection considered 110 different ratings across a number of different categories. The most important was catering, followed by parking sanitary facilities, family-friendliness, hygiene, price, shopping and access.

Almost half of the motorway service areas inspected were found to be either 'expensive' or 'very expensive', with the price for standard items, such as soft drinks or chocolate, often found to be twice the normal retail price, especially at service areas in Western Europe.

However, there is still room for improvement across all categories in Europe. As well as more moderate prices, the survey said motorway service areas need to provide better facilities for families, increased pedestrian safety and barrier-free access for the disabled.

AT YOUR SERVICE?

The latest Eurotest survey of motorway service areas reports that while there have been improvements across Europe, many problems still exist, such as overpricing of standard items in service station shops and the lack of good facilities for families and for the disabled.

Road Patrol service personnel taking part in a recent contest organised by the FIA.

Croatia's HAK gears up for Road Patrol contest

SIBENIK Road assistance remains the core activity of the majority of FIA clubs and is one of the first services many members associate with their club.

As part of the FIA's commitment to aiding member clubs in improving these services, the Region I office of the federation organises an annual Road Patrol contest in which club services pit their skills against each other in a series of roadside assistance tests.

Each test is aimed at improving the theoretical and practical knowledge of road patrol personnel in identifying and solving technical failures. During the event, the road assistance service of each participating club is benchmarked against those of other FIA clubs. In this way the contest helps keep clubs up to date with the latest developments in road assistance.

This year's contest will take place in Sibenik, Croatia and Region I Director General Jacob Bangsgaard urged clubs to get involved. "We would like to encourage FIA Region I Clubs to participate in this year's event," he said. "The contest is a great way to test their skills in the key areas of breakdown repair such as mechanics, first aid, stress resistance, and customer relations."

This year's contest takes place between 12-14 September and for more details concerning registration, go to the FIA Region I website at www.fiaregion1.com or contact Ms Sinziana Gille, FIA Region I Events Manager at *sgille@fia.com*.

FIA welcomes EU emissions limits

BRUSSELS The FIA has welcomed the European Commission's proposal to limit CO2 emissions to an average of 95 grams per kilometre (g/km) for cars and 147g/km for vans, saying that it will reduce costs and improve efficiency.

"Quite apart from the important environmental savings expected, new limits could save the average motorist hundreds of euro annually", said Werner Kraus, FIA Region I President. "The European Commission is providing an important incentive for industry to develop clean technologies that will benefit all who are interested in sustainable mobility in terms of both cost and the environment. With rising oil prices, the new limits should allow families some much needed relief in terms of fuel costs".

The European Commission says that the 2020 target for cars of 95g CO2/km implies reductions in annual fuel consumption to private users and business owners of 27 per cent compared with the 2015 mandatory target of 130g. For an average car, the Commission estimates the consumer will save some €340 in the first year, and a total of €2904-€3836 (depending on the price of fuel) over a car's average lifetime (13 years), as compared with the 2015 target. The higher the oil price, the greater the overall savings will be.

The FIA is not, however, in favour of the proposed re-introduction of super credits which would allow motor manufacturers to offset high consumption vehicles with electric ones, arguing that this has the potential to significantly water down the proposal, as the current emission calculations for electric vehicles do not take into account the origin of the electricity used.

The FIA's first Women in Motorsport Ambassadors (left to right) Susie Wolff, Monisha Kaltenborn, Michèle Mouton and Maria de Villota.

First FIA Women in Motorsport Ambassadors announced

PARIS The FIA Women in Motorsport Commission last month announced its first ambassadors to represent the body around the world, as it continues to promote and encourage women's participation in motor sport.

The five named were Michèle Mouton, the President of the Commission; Monisha Kaltenborn, CEO of the Sauber Formula One team; Susie Wolff and Maria de Villota, test drivers for the Williams and Marussia F1 teams respectively and IndyCar driver Katherine Legge.

The mission of the ambassadors is to spread the message about what women can achieve in motor sport.

The announcement came at the end of the WIM Commission's first National Co-ordinators' Seminar. This brought together representatives from the FIA's national sporting authorities from around the world, providing the opportunity to discuss issues that affect women in motor sport with a view to putting in place strategies designed to promote education and training worldwide.

"We need ambassadors - role models - women who can represent the commission internationally, spreading our messages and actions," said Mouton. "Our ambassadors represent excellence in different sectors of the sport. They are high profile, professional and influential women with a voice in our sport; they are proof that where there is a desire, there is the possibility to succeed.

"Our ambassadors are also proof that women can be successful, and there are a whole host of other women around the world who are high achievers in our sport," she continued. "It is our job and that of our co-ordinators and ambassadors to try to remove barriers that may exist and to demonstrate that gender is not an obstacle when you want to succeed in your chosen field."

Monisha Kaltenborn added: "Women nowadays do have the competence, the self confidence and the education to follow a professional career in any area they choose, but still they need the right opportunities to achieve their goals. The challenge now is to develop the platforms for them, so they have equal chances to show their abilities in all business areas they are interested in, which may include motor sport."

Since the announcement of the programme the commission was shocked and saddened by the serious accident involving Maria de Villota while testing for the Marussia Formula One team in the UK. The thoughts of the commission are with Maria and her family and it will endeavour to give her all the help it can in the future.

eCall is a technology whereby, in the event of an accident, a car automatically relays crash information to emergency services.

FIA welcomes MEP's eCall decision

BRUSSELS The FIA has welcomed the decision by Europe's MEPs in favour of the mandatory introduction of eCall technologies by 2015, a recommendation that also supports a platform allowing for open competition between different service providers.

The inclusion of an open market as a way to drive down cost and increase uptake was a key argument in the FIA's bid to make eCall mandatory.

An electronic safety system, eCall automatically informs emergency services in the case of a serious automobile accident. Even if the driver is unconscious, the system will inform rescue workers of the crash's location, and EMS teams can be dispatched within minutes. It is estimated eCall will save up to 2,500 lives in Europe every year.

The system is ready to be deployed across Europe and the European Commission is reinforcing efforts to speed up the use of this life-saving technology. It says that parallel action by member states, car manufacturers, telecoms operators and emergency centres is now needed to ensure that the system will function across Europe by 2015. Currently less than one percent of European motorists have vehicles equipped with emergency call systems.

The FIA is backing calls from MEPs Olga Sehnalová and Dieter-Lebrecht Koch for their report to become the model for a legislative proposal by the Commission as soon as possible. The FIA also supports the commitment to providing an eCall service based on strict data protection rules.

"The report is clear that the main purpose of the system is to improve incident management. It will not be used to monitor a person's movements or location unless that person has been involved in an accident," said Jacob Bangsgaard, FIA Region I Director General. "MEPs have voted overwhelmingly in the interests of the consumer and road safety. Only legislative action by the European Commission will ensure that the emergency service infrastructure of Member States is ready for 2015."

Todt calls on EU to set tough road safety targets

PARIS Following EU approval of a report into the future of the European automotive industry that focuses on maintain a competitive manufacturing base and ensuring the development of sustainable technologies, FIA President Jean Todt has called on the EU to do promote more ambitious road safety targets in the future.

The CARS 21 High Level Group meeting involved representatives of EU Member States, trade unions, the automotive industry and the European Commission, and the report it endorsed now represents the EU's strategy for the European automotive industrial sector to 2020 and beyond.

However, despite the report featuring recommendations on sustainability and road safety, President Todt said more could be done on safety in particular.

"We can be proud of adopting a report which represents a positive vision of the automotive sector's competitiveness in the 21st Century, and which takes many positive steps with regard to improving road safety and the lowering of emissions," he said. "All stakeholders must work together to make sure our future mobility is safer, cleaner and more affordable for all.

"We would like to see more ambitious road safety targets coming out of the CARS 21 Group in line with those set for the UN Decade of Action one year ago," he added. "We cannot forget that as many as 1.3 million people are killed on roads each year around the world and another 50 million injured. This is a global tragedy.

"Through the FIA's Action for Road Safety campaign, the FIA is working with the support of our member Clubs to play our part in meeting the Decade's ambitious goal to save five million lives on the world's roads in 10 years."

Region IV gets connected

LATIN AMERICA Region IV of the FIA has launched two state-of-the-art content-posting tools for the internet and mobile platforms. These new assets can be used to access both national and regional services provided by the region's member clubs. The new developments are designed to enable greater interaction with social networks, creating a permanent link between clubs and their members.

The new mobile application provides useful real-time information, enabling free-flowing communication with smartphone users, who will have access to an ongoing service offering that includes road safety advice, updated information on agreements between automobile clubs, discounts for members and news regarding mobility initiatives.

Additionally, a Quick Response (QR) code allows users to instantaneously store information by scanning the barcode with their mobile phone camera. For more information visit *m.fiaregion4.com*.

INSIGHT

SUPERCARS

THE LAST RESORT

With the cost of ownership spiralling and public opinion stacked against their use, supercar owners are increasingly being forced to drive their ultra-expensive prized possessions behind closed doors. InMotion looks at the rise of the private sports car resort

Count Marcus von Oeynhausen-Sierstorpff, whose Bilster Berg Drive Resort is due to open this summer.

These are interesting times for the automotive world. Sales are booming in the developing world, but in the United States, the Federal Highway Administration reported recently that the percentage of youngsters with a driving licence is plunging, with 26 per cent of 14-34 years not having a licence, compared to 21 per cent a decade ago.

A second study, by the University of Michigan, reveals that the under 30s now account for just 22 per cent of all licensed drivers, down from 33 per cent in 1983. Could it be that the driving licence is no longer the symbol of independence it once was? Are the young being priced out of car ownership by high running costs? Or are people simply no longer willing to buck the environmental trend that says cycling and public transport are the future?

One thing that is clear is that habits are changing. The sale of supercars may be unaffected by the new trends, but the growth of supercar clubs suggests that even those with a taste for speed are baulking at aspects of their ownership, most notably the restrictions placed upon regular road use and the often poor conditions of those roads when they do turn a wheel on normal roads.

Surely then, it would be better to reserve your prized possession for roads dedicated to the design ethic behind such vehicles - speed and the thrill of driving on the limit. Indeed, The world's fastest production car may be able to rocket along at 267mph, but speed limits on public roads mean that in many countries a supercar is a sure way to huge fines, the loss of your licence, and even the confiscation of your car.

(Above) An aerial view of Germany's Bilster Berg Drive Resort, membership of which costs €100,000. (Below) Club cars are lined up for members' use at Spain's Ascari Race Resort.

Back in the early 1960s the very first members-only motoring country club began in the US. The Meadowvale International Raceway at Carpentersville in Illinois, 40 miles to the north of Chicago, was a 3.27-mile track, and there were plans for an elegant clubhouse, restaurant, swimming pool and health spa. It was a scheme before its time, however, and failed.

The idea, though, was not forgotten and in the early 1990s Japanese golf club mogul Hajime Tanaka applied the logic of his bread and butter business to automobiles and invested $100 million in a private race track at Aida in the western Okayama prefecture. He offered memberships at $100,000 and sold 350.

The idea was continued in the US with Aspen Racing and Sports Car Club, which opened in 1994 with memberships of $30,000, plus an annual fee. Today, there are more than a dozen motoring country clubs in the United States, which offer members the chance to drive at whatever speed they like. Memberships can cost as much $100,000.

Europe has been much slower to follow suit, although Dutchman Klaas Zwart developed his Ascari Race Resort, near Ronda in southern Spain, in order to attract customers for his road cars.

Now, however, the idea is coming to Germany, where Count Marcus von Oeynhausen-Sierstorpff, who runs a string of golf, spa and wellness resorts, is opening the Bilster Berg Drive Resort.

The former NATO ammunition depot has been turned into a racing circuit by F1 track designer Hermann Tilke. In order to keep Germany's green lobby happy, the project included a tower for bats, a pond for amphibians, and the reforestation of the local area. The old munitions stores are being converted into garaging for exotic automobiles. Investors in the project will get 80 days when they can drive on the circuit and a share of the profits generated.

"The track is constructed under high FIA safety standards," says the Count. "It will have facilities allowing us to operate like a race track, with two pit lanes, pit boxes, race control, and so on, but it isn't a race track. We will not have any facilities which suit big race meetings. No grandstands and no big parking lots. So it is better to call it an 'automobile country club'."

He adds that the inspiration came from several different places.

"The main inspiration came from Lord March and what he has done at Goodwood in the UK in recent years. The country clubs one can find in the US gave a good inspiration. We definitively do not want just to copy Goodwood. What is being established at Bilster Berg is something brand new for Europe.

"The topography of Bilster Berg and the fact that it is surrounded by forest, which guarantees a high privacy, makes it an ideal location for the industry for testing new vehicles. The scenic, park-like appearance makes it an ideal location for launching new models to the market on an absolute premium level. So the industry is definitively a key target customer. But also track day promoters can be found in our customers list. The 2012 season is already sold out!"

The private members, who each bought shares at €100,000, have use of the track eight weekends a year and two afternoons each week.

"Almost all our shareholders are entrepreneurs from various sectors," says the Count. "One thing they have in common is that they all are petrol heads owning several cars, which they can store and drive at Bilster Berg.

"We have almost sold all shares - only four remain. This owners group will surely have a lot of pleasure. To offer this enjoyment to a larger well-off group owing not only beautiful but also fast cars we are about to initialise a Bilster Berg Drivers' Club. As we are at the very beginning I cannot say too much at this point of time but it will be a members-only club comparable to a golf club membership with special offers for track use, personal coaching and car maintenance. The number of members is of course limited."

HOW MUCH DOES IT COST TO RUN A SUPERCAR?

A Lamborghini Aventador (above) costs approximately €300,000. The car requires the attention of a mechanic every 7,500 miles, which equates to about €6,000 per year. Tyres are not cheap either and owners can expect to replace a set every two years (with light use). You won't see change out of €3,700 for new rubber. So, at the very least, you're looking at about €10,000 per year before you even put fuel in it, which in terms of consumption isn't actually that bad when compared with others of its ilk. The Aventador's combined figure of 17.2l per 100km, means a trip from Paris to Chartres in France will cost around €30 – a little more costly than the €8.40 it would cost a VW Polo Bluemotion to do the same trip.

Scrapes in a supercar are also expensive. A Lamborghini Murcielago front bumper costs an impressive €12,500, while a McLaren SLR headlamp assembly will set you back €4,350.

PHOTOGRAPHY: JAN BAEDEKER, ASCARI, BILSTER BERG, LAMBOURGHINI IMAGES

ROAD SAFETY

TAKING GLOBAL ACTION

The FIA recently announced the recipients of the first tranche of funding to be awarded through its Road Safety Grant Programme. InMotion looks at the 22 schemes approved for aid

The FIA recently announced that having received an endowment from the FIA Foundation it would institute a Road Safety Grant Programme to fund club projects aimed at saving lives on the world's roads via a variety of safety schemes. Over the next three years, €4.5 million in grant aid will be distributed, and the federation recently revealed the first recipients of the funding.

With €1.5 million available this year, the FIA has awarded grants to a total of 22 projects, including a road safety campaign for school children in Bosnia Herzegovina, which will involve road traffic education lectures, quizzes, and the dissemination of information aimed at educating the youngest traffic users. There will also be funding for a seniors' driver-training programme in France; a bike safety campaign in Canada and even an educational programme for Members of Parliament in Iceland.

The Automóvel Club de Portugal (ACP), meanwhile, has been awarded a grant in order to create a series of road safety cartoon shows to be broadcast twice a day on the country's TV stations in an effort to save lives. In the UK, there will be a simulator-based study of why older drivers have more "failed to look" crashes.

The awards have been made in line with a strict set of criteria and the grant programme supports projects that strengthen the FIA Mobility Club network through knowledge exchange and the sharing of information about road safety among clubs. The grants also support schemes that enhance local and regional capacity building and that develop innovative and sustainable road safety initiatives.

This year's grants were decided upon by the Secretary General for Automobile Mobility and Tourism, supported by the FIA Mobility Secretariat, but in future the approval process will include the FIA Programmes Committee, a newly established body, with representatives from around the globe.

"The programme is looking for innovative ideas," says Ortrud Birk, the FIA's Director of Public Policy and Services. "We want them to add value to club road safety activities and to represent an approach that could potentially serve as a pilot project to test a concept for adaptation by other clubs around the world. We were looking for properly structured projects which would provide a positive reflection on the FIA as a global road safety leader and make roads safer for people."

The funding is not to cover the project costs in full, but a successful project will get up to 60 per cent of its total costs from a grant.

ICELAND
FIB
Educational Programme for Members of Parliament

There are 63 MPs in Iceland. Only three have any knowledge of the UN Decade of Action for Road Safety. For improved road safety, it is essential to educate them properly.

NORWAY
KNA
Speed is a Profession

A programme run by KNA in association with other stakeholders in which the Norwegian Armed Forces will promote a speed awareness campaign and training across a two-day course.

CANADA
CAA
Bike Safety Campaign Kit

An educational project to instruct members on safe cycling practices, while encouraging positive co-operation between cyclists and motorists.

UK
IAM
Why do older drivers have more 'failed to look' crashes? A simulator-based study

The creation of an accessible information source on older driver behaviour, focusing on the most common forms of crash suffered by the target group.

UK
AA
The AA Charitable Trust Drive Worldwide Campaign

Two courses – Drive Smart and Drive Safe – aimed at developing a template for international roll-out for safe driving and road safety.

LITHUANIA
LAS
Safe & Educated

An informative campaign on the dangers of not using vehicle child restraint systems and also an educational campaign on the use of traffic rules for school children and teachers.

KOREA
KARA
Double A Project: Attention and Action Programme for Action for Road Safety

A strategic marketing campaign, aimed at using mass media to publicise a device to monitor the behaviour of motor vehicle users.

JAMAICA
JAA
The Jamaica Automobile Action Project

An educational programme aimed at involving young people in the road safety agenda, leading in turn to a decrease in road fatalities for all road users in Jamaica.

BELGIUM
RACB
Accelerate your experience and get safer – 2012

An educational programme aimed at providing novice drivers with a framework that will allow them to gain driving experience in an environment where risks are limited.

GERMANY
ADAC
On-board Rescue Sheet – Development and co-ordination in different European countries

The On-board Rescue Sheet aims at putting vital information, currently not available inside vehicles, all over Europe.

INDIA
WIAA
Vehicle simulators for driver training

An educational programme aimed at improving the quality of drivers in India. The club will also support the creation of a driver education system in Western India.

ECUADOR
ANETA
Travelling Road Unit for Traffic Accident Prevention

A training programme for children aged between 6 and 17 in road safety education.

PORTUGAL
ACP
One Safety Minute

A cartoon show on road safety, to be broadcast twice a day from Monday to Friday throughout the year on SIC (Portugal's national open signal TV station).

FRANCE
ACA
Senior Drivers training

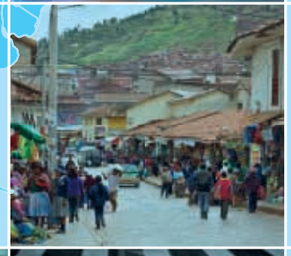
As part of the 2012 European Year for Active Ageing and Solidarity between Generations, the club will conduct an awareness and incident-prevention process urging senior drivers to analyse their competence to drive.

UNITED ARAB EMIRATES
ICAUAE
Immediate Care Association for the United Arab Emirates

A partnership with the local ambulance service concerning a volunteer medical system to deal at the roadside with traffic collisions in the UAE.

PERU
TACP
The Road Safety School Bus Peru

A public awareness and educational campaign aimed at increasing road safety awareness in Peru, starting with schoolgoers and aimed at teaching 33,000 children per year.



BOSNIA AND HERZEGOVINA
BIHAMK
Road Safety for school children in Bosnia and Herzegovina

A road safety campaign for school children involving road traffic education lectures and the dissemination of informational-educational materials.

ROMANIA
ACR
One Second for your life!

A programme involving the setting up of 50 traffic education laboratories in 30 schools in Romania. Aimed at pupils between 7 and 15 years of age.

TANZANIA
AAT
Safer Road User and Safety Vehicles

A seven-month pilot project in Dar es Salaam aimed at training seven hundred unlicensed and new riders of the three-wheel/two-wheel local motorcycle taxis known as Bajaj.

AUSTRALIA
CAMS
CAMS Ignition - Asia Pacific

CAMS Ignition is an educational programme designed for 12 to 18-year-old learner and pre-learner drivers.

CROATIA
HAK
Educational Programme for Children

A road safety education campaign for school children through the method "learning by experiencing".

AUSTRALIA
AANT
Groote Eylandt – Road and Driver Development Project in The Northern Territory

A commitment by AANT and other stakeholders to improve road infrastructure in the Groote Eylandt area to raise the mobility of the indigenous community.

PHOTOGRAPHY: REX FEATURES (4), SHUTTERSTOCK (9)

INSIGHT

DRIVERLESS CARS

DROP THE PILOT

With a number of automated car programmes moving beyond the experimental stage in recent months, are the days of human-controlled vehicles numbered? InMotion investigates

Self-determining machines are all the rage at the moment, be they drones that undertake unmanned missions in war zones, robotic medical equipment, or trains that run without drivers. The automotive world is following the developments but there are questions that need to be answered as robots begin to take over from the humans.

There are an increasing number of cars being developed that have some self-driving functionality, although cars coming on to the market do only a fraction of what is possible. Automatic parking is useful, as are systems that sense impending collisions and brake automatically to avoid them, but it is just the tip of the automated iceberg.

Last month in Barcelona, Volvo demonstrated an 'autonomous road train' with a series of different models in the Volvo range following a truck through the Spanish city. The Safe Road Trains for the Environment (SARTRE) project has developed vehicles that use cameras, radar and lasers to monitor the lead vehicle and surrounding traffic and wirelessly-linked computers that allow them to safely follow the truck, which acts as the 'locomotive', at speeds up to 85 kmh with a distance of about 20 feet between the vehicles.

"We covered 200 kilometres in one day and the test turned out well. We're really delighted," said SARTRE project manager Linda Wahlström after the test. "People think that autonomous driving is science fiction, but the fact is that the technology is already here."

Thus far, SARTRE vehicles have covered more than 6,200 miles since 2009, although a driver rides in each vehicle in case of trouble.

"This is a very significant milestone in the development of safe road train technology," added SARTRE project director Tom Robinson. "For the first time we have been able to demonstrate a convoy of autonomously-driven vehicles following a lead vehicle with its professional driver, in a mixed traffic environment on a European motorway."

In the United States, meanwhile, Google has developed an autonomous Toyota Prius, while the state of Nevada has recently passed a law regulating autonomous vehicles and issued the first red license plate to Google, so that its experiments can continue on public highways. Across the state line in California, the state senate has recently voted through a law that defines exactly what an autonomous car is and opens the way for further regulation. Google's driverless cars have clocked up more than 400,000km of running on the streets of California, although all remain manned by trained drivers ready to take the controls if problems occur. However, the only accident recorded to date was at a traffic light when a Google car was hit by a driver not paying attention.

Berlin Free University's Prof. Paul Rojas, who in 2010 said: "in the future it will be forbidden, for safety reasons, for people to drive cars."

"The vast majority of accidents are due to human error," says California state senator Alex Padilla, who introduced the legislation. "Through the use of computers, sensors and other systems, an autonomous vehicle is capable of analysing the driving environment more quickly and operating the vehicle more safely."

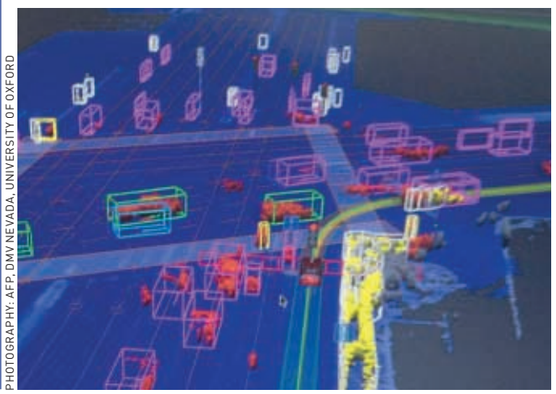
Researchers at Britain's Oxford University have also announced plans to introduce a driverless car, a much-modified Bowler Wildcat, that has been retrofitted by BAE Systems with fly-by-wire control systems, high-performance computing payloads and sensors to read the terrain around them. The Mobile Robotics Group at Oxford is asking the British government for permission to use the cars on the open roads, with trained drivers on board, just in case.

Germany, too, has got in on the act, with Berlin's Free University showcasing the MIG ('Made in Germany') driverless car at the city's Tempelhof Airport in 2010, a demonstration that led project scientist Paul Rojas to dub piloted cars as "the horses of yesterday". Rojas went on to add that automated vehicles could be used in large quantities by private organisations such as airports within five to 10 years and that in cities obstacles to autonomous car use could be removed within 20-30 years.

"Autonomous cars the real 'green' cars," he added. "We could use a fraction of the cars that we now have."

However, while scientists are getting excited about the possibilities, it remains to be seen whether the public will jump on the automated bandwagon. People like to drive and autonomous vehicles take away the control of acceleration, braking and steering. A recent survey by JD Power and Associates, based on responses from more than 17,400 vehicle owners, found that while customers are in favour of wireless connectivity systems, personal assistance safety services, enhanced collision mitigation, and surround-view rear-vision cameras, only 20 per cent would "definitely" or "probably" purchase a fully autonomous vehicle. When price was taken out of the equation, that figure rose to 37 per cent.

"While vehicle owners remain very interested in technologies that make their vehicle safer, they are turning their attention more and more toward features and technologies that allow them to be productive, connected and entertained while in their vehicles," says Mike Van Nieuwkuyk of JD Power.



(Main pic) The autonomous Bowler Wildcat developed by Oxford University. (Below left) What Google's automated car sees and (below right) the company's self-driving Toyota Prius.

PHOTOGRAPHY: AFP, DMV NEVADA, UNIVERSITY OF OXFORD

"Consumers are still learning about how autonomous driving technology could be used. Many owners are sceptical about releasing control of their vehicle and would like to see the technology proved before they adopt it."

The highest interest in the technology comes from urban-dwelling males aged between 18 and 37. Those who own premium cars are more interested in the new technologies, but while some vehicle owners see the benefit of autonomous driving as taking the control away from careless, distracted drivers, others see it as an opportunity to enjoy time spent travelling.

Car enthusiasts are less impressed. They see the technology as something that will rob them of the pleasure of driving and feel that buying such machinery would constitute a loss of status. Other less radical drivers would prefer the option of autonomous driving for the commute, on highways or when going shopping or looking for a parking space, but they still want to be able to switch off the system in order to enjoy driving when they feel like doing so.

The survey suggests that while the additional costs of autonomous vehicles might have an effect on the number of buyers, commuters who live in the same neighbourhoods may club together to buy such vehicles, while retaining their traditional cars for pleasure driving. Having said that, there are legal questions that need to be addressed.

What happens, for example, if a police officer wants to pull over an autonomous vehicle? What sort of insurance would be required and who would be liable in an accident? Drivers cannot be held accountable if a crash occurs as they are not in control, thus the liability would become a problem for the manufacturers. Also, because such vehicles rely on global positioning satellite data the vehicles would in theory be vulnerable to others taking control of them.

Some of these questions were raised in a legal symposium in January at Santa Clara University in California, which concluded that the legal challenges may be harder to overcome than the technological ones.

"Why would you even put money into developing it?" says Gary E Marchant, director of the Center for Law, Science and Innovation at the Arizona State University law school. "I see this as a huge barrier to this technology unless there are some policy ways around it."

Driving into the Golden Age

With 30 per cent of the driving population likely to be categorised as 'senior' in the near future, how is the automobile industry responding and will it be enough to cope with the rise of the 'oldsmobile'?

Catering for older drivers is a concept that didn't exist 20 years ago – now it's a boom industry

PHOTOGRAPHY: GETTY, NILS KAMPENDONK, DANI MACHLIS

Take a look around and spot someone trying to sell you a car. Look for a billboard or an advertisement in a magazine or a TV commercial. What do you see? Or, more specifically, *who* do you see? Chances are if it's an ad for a city runabout it features twentysomethings enjoying life in vibrant colours. An MPV ad will feature a young family and for a C-segment hatchback a mix of the two. The executive-car ad has professional people in their late 30s or early 40s - her in a business suit, him possibly sporting designer stubble, fashionable spectacles and an open shirt to give a nod to his mildly rebellious past.

What you won't see is the parents and grandparents of these idealised stereotypes. People climbing into the drivers' seat and grimacing from a twinge of arthritis or carefully loading shopping into the trunk while wincing with back pain isn't an image that sells cars - though across every segment of the automotive industry it's the over-60s who are the growth market. The western world isn't far away from the time when 30 per cent of all drivers come from the demographic loosely termed 'senior'. The question people are beginning to ask is 'are we ready?'.

A generation of baby boomers poised on the brink of retirement is causing ripples in most corners of society, including the automotive industry. While older drivers have been around for as long as the automobile, this particular population bulge has a history of remodelling society to fit its needs. In mobility terms it is the first generation to treat personal transportation as a universal necessity rather than a glamorous privilege.

This is a generation retiring into a world where public transportation is in decline, families are geographically fragmented and traditional urban centres are being replaced with a grand diaspora to retail park-oriented super suburbs. It's an environment in which few are voluntarily going to opt-out of personal mobility. But there are issues attached to that.

Medical advances aside, physical and mental degradation is still a fact of life. Older people tend to have less flexibility in their joints, they suffer from desensitivity of touch and eyesight. They can find it difficult to focus for long periods and have an increased propensity for confusion when faced with unfamiliar situations. In most instances people simply adapt their environment to cope with their changing abilities but with personal transportation, aside from the showroom choice, the driver simply has to cope in the environment with which they are presented. Simply, it's the car that has to change, not the driver. Catering for older drivers is a concept that didn't exist 20 years ago: now it's a boom industry.

Dr Achim Lindner: "No one wants to buy a car labelled 'designed for the over-60s'

Dr Achim Lindner is a physician and a project leader at the Ford Research and Advanced Engineering Centre in Cologne. He's one of the people responsible for Ford's growing list of senior-friendly technologies, many of which have been designed and developed with the help of the 'third-age suit', a device intended to mimic the restrictions imposed by ageing [see box].

"We think that up to 30 per cent of the [car-buying] market will soon be in the 60 plus age group and so it is important to demonstrate how you feel when you are older," he explains. "The suit imposes physical limitations on movement. Having our engineers understand this is particularly important for situations like entry and exit form the vehicle and the use of pedals.

"We can also simulate limitations with eyesight, because of course old people don't see as well as the young and maybe they will have difficulties with certain types of instrumentation."

Prof Joachim Meyer: "We need to test technology and keep older people in mind."

Ford's gradual evolution into designs that cater for older drivers has included features like grab-handles that ease ingress and egress, adjustable pedal positions and higher-contrast display systems.

"We've raised the H-point," adds Lindner, "so the point where the hips rest when seated is higher, and we've moved to things like the automatic hand-brake - because in a car used by the whole family it might be tough for a 60-year-old woman to release a hand-brake that may have been applied by a younger family member."

Ford are not alone in moving in this direction, though rarely is this a subject that makes major headlines.

"We know there would probably be a stigma attached," says Lindner. "No one wants to buy a car that carries the label 'designed for the over-60s'."

That applies as much to the over-60s as it does to younger drivers. As Pontiac general manager (and later President of Ford) Semon 'Bunkie' Knudsen famously said in the 1950s: "You can sell a young man's car to an old man, but you'll never sell an old man's car to a young man."

Fortunately, it isn't an either/or proposition and many of the design tweaks that benefit older drivers are also useful to younger drivers - if not to the same extent.

It's a point of view espoused by Joachim Meyer, Professor of Industrial Engineering and Management at Ben-Gurion University of the Negev, an expert in the field of technology for ageing drivers.

"Older people don't need anything different to younger people - but the things young people need older people probably need a little bit more," he says. "Younger drivers adjust better to problems, they are able to cope with failures or shortcomings in design, whether that's squeezing into a difficult space or using a hard-to-read display. Older people struggle with these things - which basically means they benefit more from technology that is well-designed."

Many of the issues faced by older drivers revolve around the increasing prevalence of infotainment, telematics and the other portmanteau terminology with which the industry is currently enamoured. Professor Meyer, who previously worked at MIT's 'AgeLab', suggests the presence of this technology makes the question of catering for ageing drivers wider than simply dealing with problems of vision and simple ergonomics.

"These issues are particularly important now because we have real change in the driving environment, in the sense that the driver now receives information not only through the windshield but from all kinds of devices such as cameras, alert systems and so on," he says. "He or she is also receiving information that is not directly related to driving: it comes from in-vehicle navigation systems, communications systems, traffic alerts and all kinds of information that wasn't available 20 or 30 years ago.

"These technologies naturally tend to be introduced into higher-end cars first, and frequently the people who purchase higher-end cars are older - not those drivers in the bracket marked 80 years of age and up but certainly in the 60 plus group," he adds. "They will be the first exposed to these new high-end technologies and it's very important

that we understand how they will cope with these new developments.

"And that's the main point: we need to test technology and keep older people in mind before launching anything to make sure it works well and that all people will benefit from it. That's not always the case. When technology is first introduced into cars we often find flaws and problems that may disappear in later versions. The young adapt but older drivers find it difficult to deal with the problems."

One such problem to which Meyer alludes is the increasing use of predictive settings in infotainment systems.

"We've found that using adaptive lists - playlists for music, destination lists for SatNav, telephone contacts etc - has a positive effect on the driving performance of both young and older drivers, and that their performance is broadly similar. However, when the system does not correctly predict what the user wants, then the performance of the older driver becomes much worse than the performance of the younger. The adaptive list then has a negative effect on driver performance - so we have to weigh the relative advantage of having it."

There is an argument that when the generation that has grown up with iPods and TomToms reaches retirement age, this problem will simply go away, in that their shared life experience (the cohort effect) with these technologies will give them an immunity to these particular issues. Meyer argues that, while this undoubtedly will have an effect, it isn't necessarily the whole story.

"There is a cohort effect, that's clear, but there are age-related changes that also occur," he says. "Our ability to focus attention in spite of distractions; the capability to do visual scanning; our width and field of view; visual acuity, and our ability to judge luminescence - all these things change with age and that's not related to the cohort. That's purely an age effect. It may change a little with better health or with medical improvements that may counter these ageing effects but right now these changes are givens."

In the grand scheme of things, taking slightly longer to use a menu may seem trivial but given that the majority of car crashes feature some form of driver distraction, it takes on much more significance.

Researchers at the University of Michigan Transportation Research Institute (UMTRI) determined that older drivers' visual demand (ie the amount of time they need to spend looking at the road to drive in a safe manner) is between 15-50 per cent higher than for a young driver - strongly suggesting they have less time to spend looking at a navigation system, operating a climate touchscreen or simply changing channels on the car radio.

Correspondingly, those same older drivers took longer (33 to 100 per cent longer) to absorb information from displays than young drivers. Taken together these statistics suggest a dangerous problem.

Older drivers, however, tend to be better at assessing risk and self-regulating. Thus, many adapt their driving to reduce hazards. This manifests itself obviously - driving slower, avoiding peak traffic and not driving at night are classic examples - but also in more subtle ways, such as simply not listening to the radio, or, not using in-car navigation. While that may improve road safety it comes at a considerable social cost.

It's a subject being studied in the UK as a part of SIDE - (Social Inclusion through the Digital Economy), a research project carried out by the Universities of Newcastle and Dundee. The programme's aim is to develop an in-car navigation system that better caters to the abilities and needs of older drivers. Almost inevitably the media has christened this new system 'Granny Nav'.

SIDE's research suggests older drivers' need to operate in a restricted comfort zone may lead to them undertaking journeys that are more complex - for example avoiding city centres. Using in-vehicle navigation may alleviate some of their problems - though SatNav systems are often unpopular with the demographic.

"What we've found is that current satellite navigation systems don't take into account the needs of older people - they've been designed for the mass market rather than for the specific needs of older adults," says Newcastle University researcher Christopher Emmerson.

"Our research is ongoing but what we've found from our initial studies is that older people rely heavily on audio information and rarely use the visual display. In fact, the majority didn't place the [portable] device on the windscreen or the dashboard, they preferred to put in on the passenger seat or in the glove compartment. They felt the screen was a distraction - which links into the fact that many older people think the displays are too complex and they are unable to process all of the information on them."

While pointing out that treating the over-60s as a homogenous group is to over-simplify matters, Emmerson explains that the next task for the research project is to investigate how Satellite Navigation systems could be designed to better cater for older drivers, and then test those findings in a driving simulator.

"The intention is to examine how the visual display can be broken down and the information provided in a simpler manner," he says. "The question after that is how it will affect mobility: will it make these people more confident drivers? If the visual information is presented in a more suitable format, are they going to be more likely to look at it, or will they still rely on the audio instructions alone?

"If that is the case then can we alter the audio information to be more appropriate? These are complex issues but ultimately it's an area that could help people drive safely for longer."

It's worth pointing out that the driving, and indeed most other social issues, surrounding an ageing population stem not from a age-old problem but rather from people now being healthier and active much later in life. In some instances technology needs to catch up with that fact but, overwhelmingly, automotive developments that provide a safer and more comfortable environments for all drivers are particularly useful for seniors.

Features such as adaptive cruise control, autonomous braking and parking, blind spot detection, reversing cameras and voice control have been found to be of greater benefit for this group than for any other. You just won't see elderly people using them in the adverts.

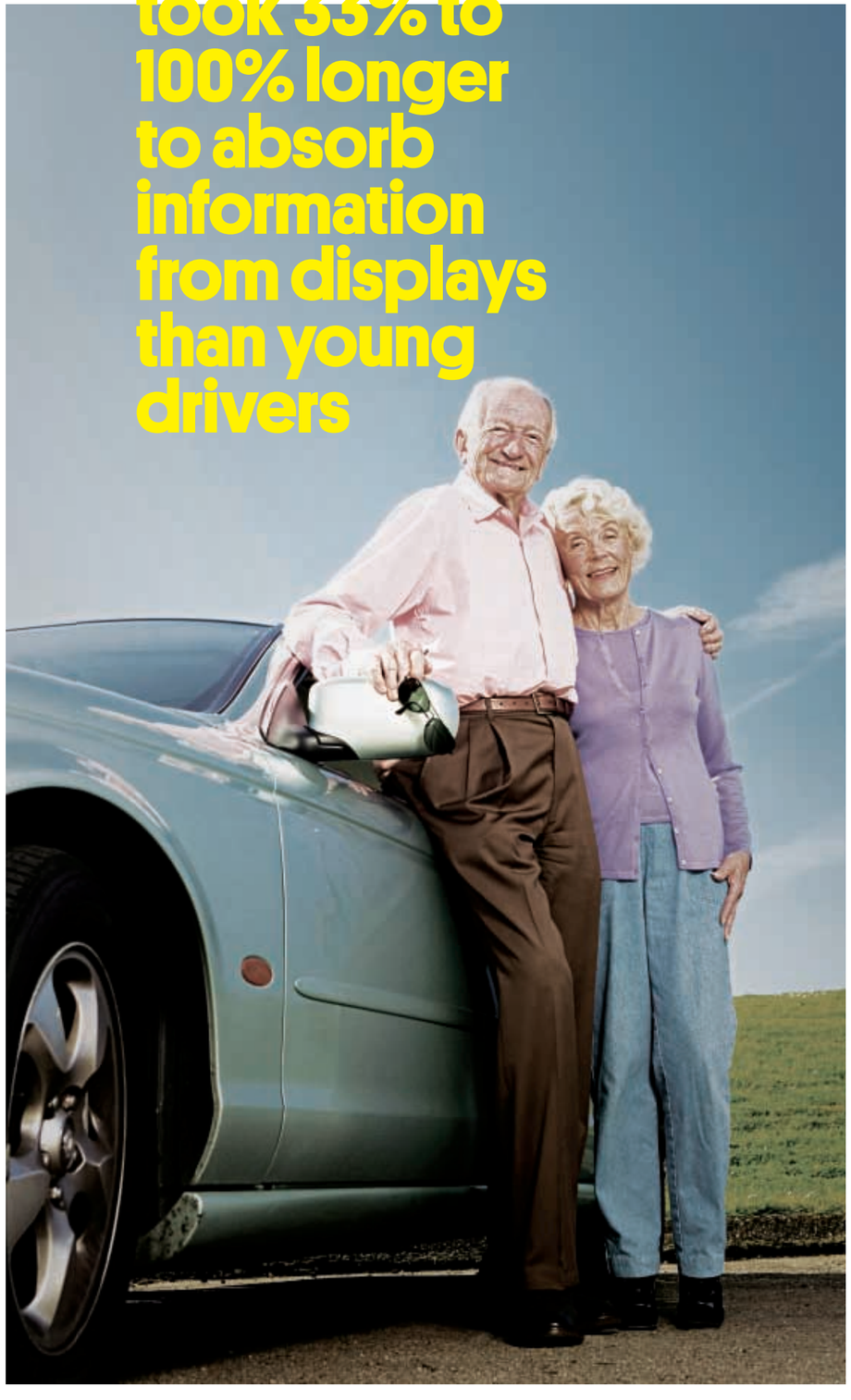
SUITED TO SENIORS

Developed in conjunction with the University of Loughborough, the 'Third-Age' ergonomic research suit Ford has been using for the last decade was developed to give the company's young designers an insight into the physical limitations experienced by older drivers and passengers.

Originally developed as a tool to raise awareness of osteoarthritis, the suit's main feature are the orthoses that add bulk and restrict movement in key joints – namely neck, elbows, wrists, back, knees and ankles. They operate in much the same way as the orthopaedic braces fitted to restrict movement and aid recovery during rehabilitation from an injury. Tailored to designing a car interior, Ford's third-age suit also includes gloves that decrease the wearer's sense of touch, and tinted goggles. The goggles are designed to mimic declining vision (for example, from cataracts), while also increasing sensitivity to glare and reducing sensitivity to blue light, all factors associated with the impaired eyesight of older drivers.

The 'Third-Age' suit is intended to give the wearer (assuming the wearer is a generic thirty-something engineer) the physical capabilities of someone 30 years older. Since the initial publicity generated by its use in automotive design, the suit has been employed by a variety of other industrial concerns from architectural practices to kitchenware designers. The latest company to champion the use of the suit is Boeing, who through a technology-sharing alliance with Ford used the suit in the development of the 787 Dreamliner.

Older drivers took 33% to 100% longer to absorb information from displays than young drivers



PHOTOGRAPHY: GETTY

Diamonds IN THE DUST

The FIA's WRC Academy aims to unearth the next generation of rally champions by providing young talent with the toughest education possible – six rounds of the World Rally Championship. Photography: Ralph Hardwick

FIA WRC Academy driver Timo Van der Marel powers through the dust during the recent Acropolis Rally. The Dutchman finished the event in seventh position overall.

It was a finale that will go down in rallying history:

after a season-long battle, one man had to win 17 stages to claim the crown. His name was Craig Breen and he secured the 2011 Cup in the final split of the very last stage. His victory meant that not only was he an overnight sensation but the nail-biting finish also meant that the FIA WRC Academy's inaugural year was just as noteworthy.

Few motor sport series in the world can boast competition so close you have to watch it through your fingers. But that is the whole point of the Academy: giving rookie drivers a global platform upon which to demonstrate their skills in equal machinery. With mentoring and support from some of the sport's top names and organisations - from Malcolm Wilson and Michèle Mouton to Ford and Pirelli - opportunities for young rally drivers don't come any bigger.

"It's the most cost effective way to get into the WRC but not only that, it's the perfect platform for the young driver to show his skill because all the cars are identical," says Wilson, founder of Academy promoter M-Sport. "I think the timing is right for it now: VW are coming into the championship and if the WRC goes as we hope and gets the recognition it deserves there will be more manufacturer interest and more need for young drivers."

For Breen, the driver who delivered that nail-biting finish at last year's Wales Rally GB, victory in the series earned him a prize of €500,000, which has allowed him to compete in this year's SWRC and selected IRC rounds. "I was running with a team of people who to all intents and purposes were a works team; it was a fantastic environment to be involved in," he says. "It's been really good; a full year's budget does not come around very often. I want to continue at the pace I'm going at now; I don't want to Academy to be a flash in the pan. I am aiming to become world champion and I'm heading in the right direction."

And future world champions are exactly what the FIA wants the Academy to deliver. Michèle Mouton, the FIA WRC Manager, knows a thing or two about coming up through the rallying ranks and you could forgive her for wishing such a feeder series had been around back in the late 1970s.

"I had to do it on my own, every year," she says. "It went a lot slower than being in the Academy. I was rallying only in France and someone saw I was winning, but it took a lot of time. Now, if someone wins the Academy, you know they have the ability. You can see after one year Craig Breen has improved a lot. The chance these drivers have... the team managers and directors are looking straight away at what they are doing on stage. The most important thing is you are driving on the same routes as the top drivers in the WRC championship."

Run in partnership between the FIA and promoter and supplier M-Sport, a season in the Academy costs just under £120,000 - an accessible price point that compares with around £60,000-£80,000 for competing in a national series in a winning car. The Academy is held over six rounds of the FIA World Rally Championship, with running time limited in order to help keep the price tag affordable. All 11 drivers compete in identical Fiesta R2s, prepared by M-Sport at their factory in Poland, with control tyres from Pirelli.

The drivers range in age from 19 to 24 - and come from four different continents - and in order to take part they must not have competed as a priority driver on more than seven rounds of the WRC prior to 1 January 2012. The calendar takes in three gravel (Portugal, Greece and Finland), two asphalt (Germany and France) and one mixed-surface event (Spain), with drivers counting their best five scores. For many, it will be their first taste of gravel events, and few will have experienced the intensity of a world championship round.

"Three or four days of rallying involves a lot of hours," says Kate Rhodes, the FIA WRC Academy Manager. "We aimed to run about 70 per cent distance at the opening round in Portugal. The drivers had to travel three hours to compete in the Lisbon Super Special on the Thursday, then the schedule was to run all of Friday and

Last year's FIA WRC Academy champion Craig Breen in action at the Wales Rally GB, and (below right) celebrating his title win. (Below left) Academy promoter Malcolm Wilson.

ADDITIONAL PHOTOGRAPHY: WRC ACADEMY

Alastair Fisher works on his car during the Acropolis Rally, while (below, left to right) getting bush mechanics training, Timo Van der Marel in action, and Academy co-ordinator Phil Short.

we finished on Saturday at lunchtime. There's a greater chance of the driver getting the car to the end of the rally if the distance is slightly reduced, so more drivers finish.

"The car has been designed to be strong and reliable - which is reflected in the volume of class wins the Fiesta R2 has had. It is quite capable of reaching the end of a WRC rally but a full event is quite a shock to some drivers who have only competed in shorter national rallies."

A cornerstone of the scheme is the idea that building future champions is about more than just offering the chance to compete on the same stages as the likes of Sebastien Loeb or Petter Solberg - and in front of the team bosses. "There have been a lot of junior formulas for young drivers," says Mouton. "But the idea of this Academy is to build a complete package. A driver has to drive fast, and for his team, and answer questions from journalists. They learn physical training; it's a complete education."

When the Academy was first conceived, the idea was to run it like a school: there was an Academy principal and the regulations were called rules. These days the atmosphere is less strict, although there is a strong schedule.

For each round, three briefings are given by the Academy's sporting supervisor Phil Short: one pre-event, one post-recce and a final debrief so any questions are answered. At every rally, there is a chance to meet a WRC driver and ask him for advice, meanwhile teamwork is tested with a wheel-change competition. To make sure that all the competitors know their rule book, a quiz is held - how much lateness is permitted between time controls? What do you do if you pass a car that has stopped on stage? - with a prizes on offer to keep the drivers keen.

An impressive roster of names are involved in the extra-curricular activities that make the Academy so much more than a simple rookies' championship. Chris Patterson, co-driver for Solberg, has spoken about preparation and pace-notes; M-Sport's fitness trainer assesses their physical condition. These young drivers learn about everything from finding sponsorship to bush mechanics. Along the way a strong camaraderie has formed that everyone involved in the Academy comments on.

"We did two days of pre-season training at M-Sport," says Rhodes. "Pirelli provided their test driver, Paolo Andreucci, who mentored them and gave them feedback on their driving style. They did media and PR training

"There's no better formula than what the FIA and M-Sport have come up with." Timo Van der Marel

with [legendary press officer] Anne Bradshaw. Phil Short summarised the sporting issues and how to approach a WRC round, while Dr Tony Turner of Edinburgh University spoke about sports science.

"They had a full technical demonstration: we produce a driver's book with photos of the technical components so if they break down while on stage they can phone our engineers and both parties will be clear on the precise nature of the problem. Our knowledge of the WRC feeds into everything we do with the Academy.

"The main element was a team-building exercise," she adds. "One aspect of this was a climbing wall. It was driver working with co-driver to help each other up the wall - and the climber had to do it blindfolded. I had a go at it myself and it was surprisingly difficult, but it was a great exercise in communication. A really good thing was that all the drivers bonded and I think real friendships have been formed. Both M-Sport and the FIA have got a vested interest in the WRC; we want these people to enjoy it and come back with us or with another team. It must be enjoyable."

The idea of helping shape a rounded driver who is as proficient in a team environment or in front of a journalist as he is behind the wheel, is paramount for the FIA. It's a principle it applies with the FIA Institute Young Driver Excellence Academy, and all the Institute's young rally drivers have signed up for the Academy either this year or last, including Holland's Timo Van der Marel, now in his second year with the series.

"To be honest, I think there's no better formula than what the FIA have come up with together with M-Sport," says the 22-year-old. "This is something that has never happened in the history of the WRC. The briefings are very good; a lot of the people have not had any experience on the rallies so it's good to at least talk to a top driver like Petter Solberg or Mikko Hirvonen - they can help you out with difficult rallies or better preparation."

Van der Marel is being supported by

his ASN, the Dutch KNAF, and the FIA sees the Academy as a cost-effective way for ASNs to promote young drivers from their countries.

"We have a young driver programme in Holland and when I started my career four years ago, I was chosen out of hundreds of other people," says Van der Marel. "I needed to do a year of Rallycross to get some experience, then I got a year of rallying in Holland. The next step was to the WRC with the FIA WRC Academy. Of course, my first year was difficult because I did not have so much experience - I had not driven a gravel event before. I improved myself a lot and this year the goal is to finish in the top three."

Academy manager Rhodes points to a measured approach that the drivers are encouraged to take in their first year.

"All the competitors know they are there to learn, so they do not go gunning for the win if they have not done a WRC event before," she says. "They get points for stage wins, so it stops drivers from holding on to a position and relaxing - they obviously have to think about it quite intently."

One of the major attractions for aspiring Academy students is the opportunity to work with title-winning outfit M-Sport. It is not just the Cumbrian team's legendary profile in the WRC that catches the attention of young drivers, but the commitment the company has to nurturing young driving talent.

"We first created a one-make Fiesta series back in 2006," explains Wilson. "I wanted to create this ladder of opportunity, which leads back to me starting off my rallying career in a small Escort and going right the way through.

"These days there is less recce time, so it's important for young drivers to get WRC experience," he adds. "There is no way you can do the WRC events any cheaper than this and I think for the FIA it's clearly important to see young talent coming through.

"This is the second year of the Academy; last year the numbers were better but this year the competition is definitely going to be a lot closer. The great thing is you've got somebody like Michèle Mouton who takes a big interest in it. That rolls down right through the whole WRC paddock, so all the team managers are watching. The one-make part of it is one of the reasons why it's successful: with one company doing the cars, you know they are identical. It's very easy to see how the drivers are developing so there is no better way for them to get recognised."

Mouton is keen to stress how important grass roots competitors are to the FIA - "before you become a world champion, you have to start at the beginning" - and it's a feeling shared by the others involved in the Academy.

Ford's Director of Motorsport, Gerard Quinn, is passionate about helping young drivers climb the motor sport ladder and the company's involvement goes beyond the supply of a field of Fiesta R2s and technical support.

"We worked closely with the FIA and M-Sport to make sure that this opportunity is not just a category but a stepping stone," he says. "The idea being they could go through the other levels in rallying and ultimately end up in the WRC. As a company it was very important to have the Academy linked to the WRC programme."

Pirelli is also a strong supporter, giving lectures on tyre management as well as supplying the rubber. Mario Isola, Pirelli Motorsport Manager, points out the importance of giving the drivers a tyre choice during the asphalt events so that they begin to learn how to choose from the different options available. The number of tyres is limited on each round, so drivers need to learn to manage their tyres accordingly.

It is one of the many challenges faced by the Academy's students that is helping them to quickly develop skills in a way that simply wouldn't be possible if they were competing as a privateer in the WRC.

"Of course they will learn quicker," says Mouton. "Even if it is not the same power as cars at the top in the WRC it's the same circumstances, the same achievement. The FIA is pushing hard; it gives the WRC the possibility to have new drivers from all different countries.

"I think for the FIA, for the future, you need new drivers and new young drivers. It's a big chance for them to be around professional people who have a lot of experience instead of being by yourself in your own country."

One driver who recognises this is Alastair Fisher, nephew of the late Irish rallying legend Bertie, who claimed the first Academy win of 2012 in Portugal. "Ford and M-Sport's involvement was a lot to do with my decision to do the Academy last year," he says. "If it hadn't been for the Academy I would not be in the world championship to be honest. I'd probably be doing the British Rally Championship because any other step in the WRC is too expensive.

"This year I've taken my overall approach more seriously and thought about it a lot more," he adds. "I've put a lot of work in. The car is fairly basic so you have to grab it by the scruff of the neck and get every last bit of speed out of it. It means you really stand out if you are driving quicker than anybody else.

"It would be nice to get my foot in the door in a proper world championship drive, but you've got to be realistic. I'm very focused on playing the championship game and hopefully come the end of the year it will pay off, but there are ten other people thinking that..."

RALLYING REWARD

"The great thing about the Academy is the prize at the end of it," says Malcolm Wilson. "The winner can either do the entire 2013 FIA WRC championship in a Fiesta R2 or five events in a Ford Fiesta S2000.

"If it's a guy who's on the age limit then he needs to get into a high category car as soon as possible," he adds. "If it's a 21-year-old, I would put them in the R2 to do all of the events because the experience counts for so much. The chance to go to Australia and Mexico and Argentina is just incredible. To get it any other way is going to cost someone a lot of money."

There will also be an award for the best-placed rookie, who will win a test in a Ford Fiesta S2000, with one-to-one tuition from one of M-Sport's WRC drivers.

The second of six Academy events on the WRC calendar, the Acropolis Rally was won by Elfyn Evans (below). Training at the Academy includes advice from current stars, such as Petter Solberg (bottom left).

"The car is fairly basic, so you have to grab it by the scruff of the neck." Alastair Fisher

PATHS TO GLORY

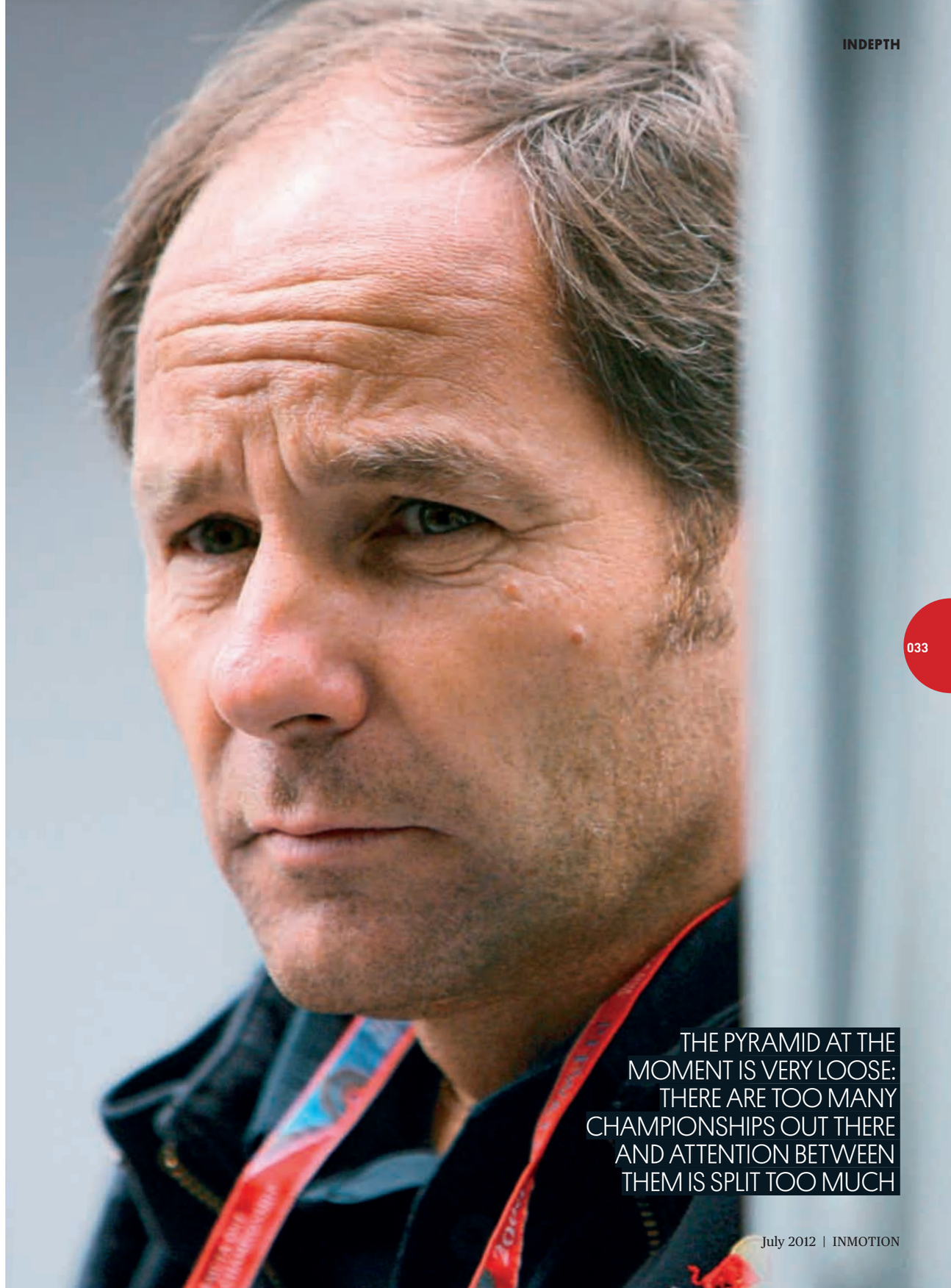
When new FIA Single Seat Commission President Gerhard Berger was battling through the junior ranks the route to F1 was clear. Now, with the road muddied by spiralling budgets and a plethora of competing series vying for attention, he believes it's time to forge a new and simple path

There was a time, back in the 1980s when a young driver's path to Formula One was very clear. An aspiring champion would graduate from karting and move into Formula Ford. He would get the best car he could afford. If he had a lot of money or looked like an exceptional talent he would go on to race in the British championship. If not he would try to win in his own country and then get the money to compete in the annual Formula Ford Festival at Brands Hatch at the end of each year.

Perhaps that would help him get a seat in the British series the following season. If a youngster was successful in Formula Ford, he would then move up to Formula 3. There were national championships in several European countries and also a European series.

The best drivers were to be found either in Britain or in Europe. A driver

PHOTOGRAPHY: SCUDERIA TORO ROSSO



who proved his talent in Formula 3 might be able to leap straight into Formula One, others had to take the additional step of Formula 2, or the Formula 3000 series that followed.

It was an easy system to understand, logical and clear, and the new stars were easily identifiable. British Formula Ford champions such as Tommy Byrne, Ayrton Senna and Mauricio Gugelmin went on to become British Formula 3 Champions and subsequently were groomed for Formula One success.

Over time this simple system began to fracture. Ford did not support Formula Ford as much as it might have done and other manufacturers moved in with their own championships. Rival series popped up and the choices grew. So too did the budgets, until drivers wishing to feature in whatever was deemed the most competitive series at the time were hostage to running costs that often approached the cost of a decent family home, or two. The clarity was lost in a plethora of competing series and the costs grew exponentially. The path to F1 for a young driver became confused and very costly.

Gerhard Berger was one of the few who jumped straight from Formula 3 into Formula One, along with drivers like Ayrton Senna and Mika Hakkinen. Now 52, Berger raced in the German Formula 3 in 1982, before moving into the European Formula 3 Championship, where he drove for Dr Helmut Marko, now one of the principle players at Formula On squad Red Bull Racing.

In his second year of European Formula 3, Berger was helped by BMW to break into F1, with a handful of drives for the ATS team, which used BMW engines. He proved his talent and was signed by Arrows-BMW for 1985. By the following year he'd moved to Benetton-BMW and won first grand prix that year in Mexico City.

It was enough to attract the attention of Ferrari and Berger joined the Italian team in 1987 where he was able to win four races over the next three seasons. His success didn't go unnoticed at McLaren and he moved to Ron Dennis' team in 1990, where his team-mate was Ayrton Senna.

Berger won three races for the Woking team but decided to go back to Ferrari where he hoped to be able to be in a position to beat the Brazilian. He stayed for three years and added a ninth grand prix victory, but it was a tough time for Ferrari and Berger moved on to Benetton in 1996 and 1997, where he achieved his 10th and final F1 victory before announcing his retirement from the sport, at least as a driver.

GERHARD BERGER'S ROUTE TO FORMULA ONE

Gerhard Berger's own route to Formula One was disarmingly simple. The son of an Austrian haulage company owner, Berger began his racing career in saloons, beginning with a Group 5 Ford Escort, at local events around his Wörgl home. Discovering that he had a talent for driving, the future F1 star moved to single-seaters and tried his hand at first Formula Ford 1600 and then at F3. It was in the latter of the two series that Berger first excelled, performing well enough to finish third in the 1982 German F3 Championship.

The following season he raced a Ralt-Alfa for Dr Helmut Marko's RMS team and finished seventh in the European F3 Championship, scoring two second-place finished along the way. It led to a driver at the Macau GP where he finished third, behind Ayrton Senna and Roberto Guerrera. That was a performance strong enough to earn him a berth for another F3 season, this time at the team of Italian Pino Trivellato. Berger scored his first major victory in the series with a win at the Österreichring and soon added another at the round in Monza.

His F3 victories brought him to the attention of German Formula One team ATS, run by wheel manufacturer Hans Günther Schmid. Berger tested for the team at Zandvoort in Holland in late July 1984. A few short weeks later he made his F1 debut at the Austrian Grand Prix, where he started 20th and was classified 12th, exiting the race with a gearbox problem three laps from home. It was the start of a 210-race career in motor sport's premier series.

A few months later he was appointed head of BMW Motorsport and oversaw the Munich company's return to F1 with Williams in 2000 before handing the job over to Dr Mario Theissen. During that period Berger also helped create Formula BMW, which kicked off in 2002 as a junior series designed as a transitional first step from karts to 'slicks and wings' open wheel, single-seater racing.

The first Formula BMW championship was in Germany in 2002 and was won by Nico Rosberg, while later champions included Sebastian Vettel in 2004 and Nico Hulkenberg in 2005. In the end, a number of Formula BMW championships grew out of the original and the winners of these are still rising up the racing ladder.

PHOTOGRAPHY: DPPI, THOMAS BUTLER

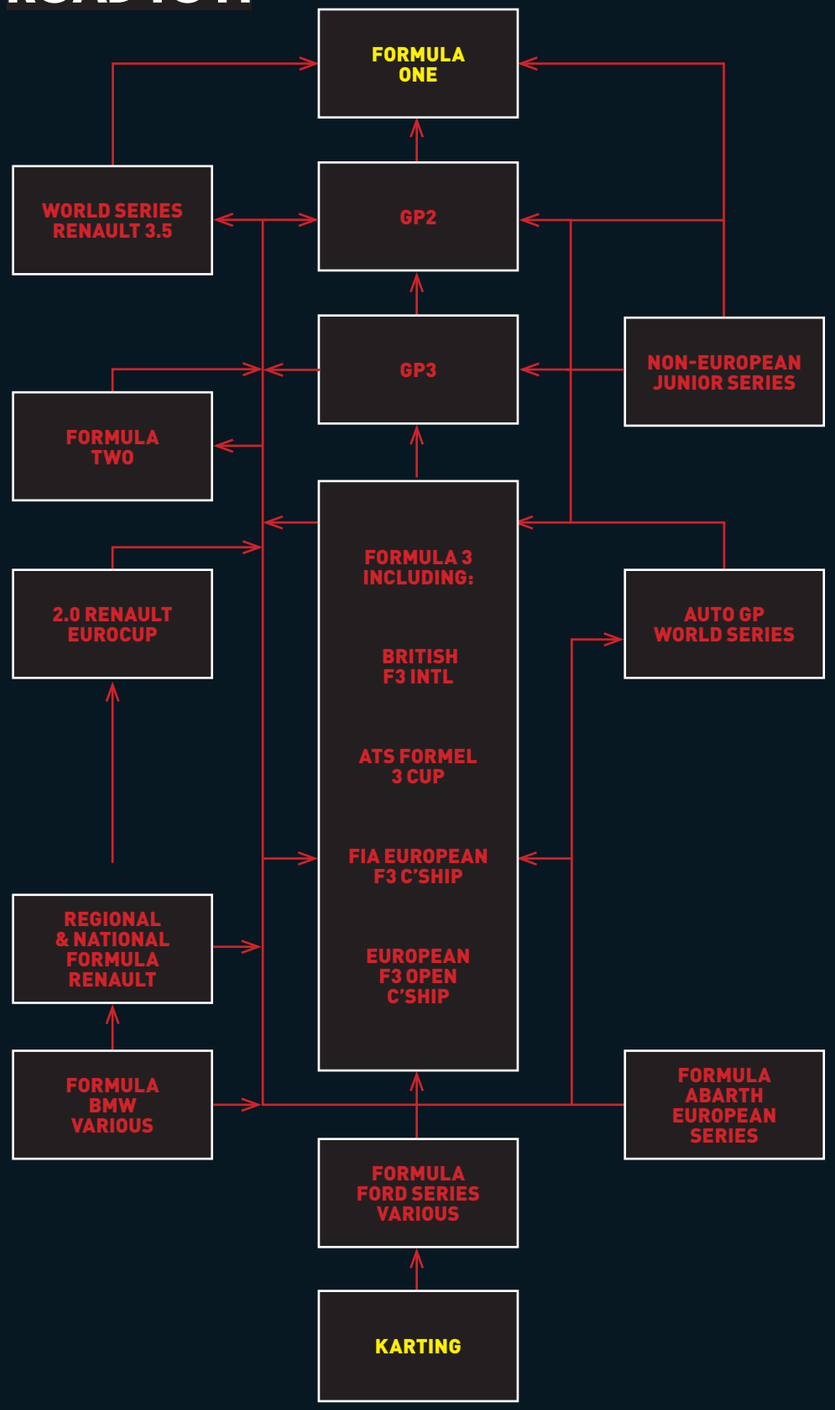
After leaving BMW, Berger became co-owner of the Scuderia Toro Rosso Formula One team and ran the squad in partnership with Red Bull boss Dietrich Mateschitz from 2005 and 2008. He eventually sold his stake to the Red Bull chief and decided to take a complete break from racing.

Last year, however, Berger returned to motor sport to help FIA President Jean Todt, his former boss at Ferrari between 1993 and 1995, to establish a more sustainable structure to help youngsters get to Formula One and so, at last year's FIA Annual General Assembly in New Delhi, Berger was named President of the FIA Single Seater Commission.

"I am doing this simply to try to give something back to the sport," Berger explains. "The Commission looks at everything between karting and Formula One and I find that the pyramid at the moment is very loose: there are too many championships out there and attention between them is split too much.

THE BEST DRIVERS ARE ALL OVER THE PLACE. THE SYSTEM NO LONGER DOES WHAT IT IS SUPPOSED TO DO

THE HARD ROAD TO F1



A SIMPLE PLAN

The difficulty for any young driver setting out on a career in motor sport is where to go after a career in karting. With a wealth of series to choose from, and with the credibility of championships often dependent on cost, strength of grid and from which series the last great F1 hope emerged, the route to top level motor sport is fraught with pitfalls. Take a wrong turn and the way back can be measured in years.

Gerhard Berger's plan for the future of junior series is straightforward: define regulations for a simple sequence of steps from karting to Formula One and let each nation, region or promoter establish a series utilising those rules in their own territory. The first step was taken by the FIA before the election of President Jean Todt and before Berger's appointment with the foundation of Formula Two as a low-cost alternative to the array of series existing just below Formula One.

Berger's first step has been to institute the FIA European F3 Championship [see panel, right] and the next phase will see the former F1 great examine the first rung on the ladder, with a series aimed at helping youngsters make the transition from karting to slicks and wings racing.

WE ARE MISSING SOMETHING BETWEEN KARTS AND FORMULA 3 – CALL IT FORMULA 4 IF YOU WILL

"People are complaining that the best drivers are now all spread out and so you cannot look at the British Formula 3 Championship, for example, are say that he is certain to get to Formula One," he adds. "These days the best drivers are all over the place: one in Formula 3, one in GP3, one in Formula Renault and one in Formula Abarth. The system no longer does what it is supposed to do, which is to give a highly talented driver a CV he can use to progress to Formula One.

"I went through the system myself and I have seen it for 30 years now and I am sure that I can bring something to the sport because of the contacts I have made during my career and maybe having the right strengths to help sort out what is required."

And for Berger the first requirement of a clear path to the top of the motor sport ladder is a simpler Formula 3 category.

"The most urgent thing is to sort out Formula 3," he insists. "For me this has always been the most important class for young drivers. That is where you can really see for the first time how much talent someone has.

"Nowadays there are so many championships, even inside Formula 3 itself," he says. "There are national championships holding races outside their own countries and each series has different regulations. Some countries have championships that are not very strong, with only eight or ten cars and others have A, B and C classes, and so on. And you have different engine rules as well. It is not Formula 3 as we knew it.

"That is the area we are starting to deal with and the first thing I did was to introduce a new FIA European Formula 3 Championship," he says. "This is not popular with everyone because there are a lot of vested interests, but I don't care about that. We need to start with a new platform and that is the new championship.

"It is coming together nicely. It is important now to build strong national championships with the same regulations. That is the project at the moment and it will take a little time."

PHOTOGRAPHY: THOMAS BUTLER

FIA EUROPEAN F3

The first response of Gerhard Berger and the FIA to the apparent confusion in the progression from karting to senior top level racing series has been to inaugurate a new FIA European Formula 3 Championship.

Ratified at a meeting of the FIA's World Motor Sport Council in Milan earlier this year, the new series replaces the existing FIA Formula 3 Trophy and, according to the Federation, "is intended to become the foundation for the development and progression of aspiring and gifted young drivers, establishing a clear path all the way to F1".

Contested over 10 rounds and currently using the F3 Trophy regulations, the series kicked off at Hockenheim on 29 April. Since then the series has raced at Pau in France, Brands Hatch in the UK and at the Red Bull Ring in Austria. The current series leader is Daniel Juncadella, a graduate of Formula BMW. The Spanish driver has 109 points from the first three rounds, which are made up of three races per weekend. Second is Italian driver Raffaele Marciello on 103 points, with Carlos Sainz Jr, son of double WRC champion Carlos Sr, third with 82 points. Upcoming races will take place at Germany's Norisring and Nurburgring, followed by a trip to Zaandvoort in Holland before the series finishes with rounds in Valencia, Spain and at Hockenheim in Germany.

To copper-fasten the appeal of the new series, three new prizes will be offered at the end of the season. The series winner will be crowned F3 European Champion and will be offered a test in a Ferrari Formula One car, as well as two days of testing in the FIA Formula Two series. The series runner-up will get a two-day F2 test as well the opportunity to drive a DTM car, while the third-placed competitor will get a two-day F2 test.

In keeping with the idea of a holistic Formula 3, Berger's next mission will be to feed the plan up the food chain, to the step just before Formula One.

"It's a similar problem at the next level up, with Formula 2, GP2 and Formula Renault 3.5," he says. "It is not as bad a problem as with Formula 3, but we need to study what is the best solution there and concentrate things more. You don't want to dictate a new formula, you simply want to create a better formula, so the question is what does that mean?

"Firstly, you need clever regulations that create a good and equal field," insists. "Then you need to bring the costs down. You see today that the British F3 Championship costs in the region of £700,000 (€870,000) and I don't think that is the right thing for a formula for youngsters. We know that most of the money has to be paid by families and we know that there is not much sponsorship available, so that is very important."

The new commission president is also mindful of the fact that there is currently no adequate series available for youngsters moving from karting to slicks-and-wings racing and admits he would like to see the establishment of a series similar to his old stomping ground - Formula BMW.

"We are missing something between karts and Formula 3 - call it Formula 4, if you will," he says. "We are working on this. Obviously, I have a bit of experience because I was involved in Formula BMW and that came out quite well, although it became too expensive.

"I could see it was going wrong when I left BMW. It has to be reasonably priced. It has to be safe, and drivers need to learn about aerodynamics. It mustn't be too complex, but it should be a challenge, so that they can learn. That's the third project. A good guy in karting should be able to win at Formula Ford level. Formula BMW was a good formula. It had a modern good-looking car."

It's a simple system, though one fraught with complications as the interests of a number of series, all competing for young driver budgets, have to be dealt with, but Berger is insistent that motor sport must be de-cluttered and get back to basics.

"I think all these side categories disturb the system," he says. "We should have one formula with one regulation. OK, if a country does not have a strong enough championship then it could join with another, or there can be some kind of final between the top guys in the different national series, but what we have to do it break it all down and provide what is needed."

SAFER BY DEGREE

In a world first, Saint Joseph University in Beirut has established a chair in road safety, designed to tackle the region's growing road traffic accident problem. InMotion spoke to project chief PROFESSOR RAMZI SALAMÉ to find out more

As the world begins to better understand the increasing problem of road traffic accidents, more and more effort is going into safety education. But teaching the world about road safety is not just about explaining the dangers. It is also about creating standards and shaping rules and regulations, and for that you need qualified experts. Nowhere is this more apparent than in North Africa and the Middle East.

The Eastern Mediterranean Region of the World Health Organisation (WHO) comprises 22 countries, from Morocco in the west to Pakistan in the east. In total these nations are home to 546 million people. There is a diverse mix of countries with several very rich nations and a similar number of poor ones. The overall level of 'motorisation' is relatively low compared to other parts of the world, with only 4 per cent of the world's vehicles here, compared with 8.3 per cent of the global population. Overall, there are just 96 vehicles per 1,000 people, but there are wide variations between the 20 vehicles per 1,000 seen in the occupied Palestinian territory (West Bank and Gaza Strip) and the 721 per 1,000 population in Qatar.

Many of the countries have also seen a significant increase in motorisation levels since 2000 and a sharp rise in the number of road accidents in the past

PHOTOGRAPHY: MATILDE GATTONI

Prof. Ramzi Salamé outside St Joseph's University, Beirut, the first to establish a Chair in Road Safety.

INDEPTH

"REDUCING TO A MINIMUM THE NUMBER OF DEATHS ON THE ROADS NEEDS A CRITICAL MASS OF SPECIALISTS."
PROF. RAMZI SALAMÉ

five years. The average regional road fatality rate is one of the highest (32.2 per 100,000 inhabitants) in the world, resulting in 176,000 deaths every year.

WHO research revealed that only half of the countries have policies to invest in public transport. Only 40 per cent of the countries have suitable urban speed limits and seat belt laws exist in only 30 per cent of the nations. In several countries there are no laws obliging motorcyclists to wear helmets, while only two of the nations involved have child restraint laws and even then enforcement of all road safety rules is poor. The statistics for seat belt usage are truly frightening, with figures as low as 5 per cent in Libya.

In an effort to combat these problems and to deal with the likely increase in road accident deaths in the years ahead, Saint Joseph University in Beirut and the Renault Foundation have established a multi-disciplinary academic and research university chair and a Masters programme in order to create a national and regional network of experts fully versed in road safety.

Saint Joseph University (known as USJ) is a private institute founded by the Jesuits in 1875. Today, this non-profit organisation has 12 faculties and 21 institutes, plus a variety of other chairs and research centres on five campuses in Beirut, with a number of study centres further afield, including one in Dubai, in the United Arab Emirates.

The Road Safety Chair and Masters project is being headed by Professor Ramzi Salamé, one of Lebanon's leading academics. Since 2008, he has been the principal consultant at the country's Ministry of Education and Higher Education. Trained initially in psychology, Professor Salamé studied for a Masters in Montreal before going on to get his doctorate in Canada.

Throughout his studies he worked as a teacher and lecturer in both Canada and Lebanon. In 1994, he became a senior specialist in higher education and training for the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in Beirut. He would later become acting director of the UNESCO regional bureau and of its bureau for education in the Arab States.

"The idea of establishing a Chair and a Masters in the management of road safety came at the crossroads of thinking in Renault and in Saint-Joseph University," he explains. "In fact, Renault, within the framework of its social responsibility policy, has a long-standing commitment to road safety and is one of the founders of the GRSP (Global Road Safety Partnership).

LEARNING CURVES

While road safety is a new field of study, motor sport courses continue to multiply. The latest innovative programme is a partnership between the UAE's motoring club and the University of Ulster, and has motor sport at its core

In 2010 the University of Ulster signed a research and training agreement with the Automobile & Touring Club of the United Arab Emirates (ATCUAE) to create the opportunity for UAE-based students to conduct research at Masters and PhD level at the University. The relationship expanded in 2011 with the launch of the UAE Motorsport Star Programme, a competition leading to a training course at the University's Jordanstown campus. More recently a research project has begun into the effects of dehydration on support staff at sporting events. The next step is the launch of a BSc (Hons) degree in Applied Sport Management, the first course of its kind to be offered in the UAE.

The degree course will be taught at the Higher Colleges of Technology campus in Abu Dhabi, with lecturers from Ulster working alongside local academics. The programme is to the first of a number in the planning stages, including a range of post-graduate programmes, to be offered at HCT in partnership with the University of Ulster.

ATCUAE, meanwhile, started the Motorsport Knowledge Institute (MKI). The aim is to develop partnerships with education and research institutions around the world to promote an academic interpretation of motor sport.

"This relationship is unique in world motor sport," says ATCUAE President Mohammed Ben Sulayem. "It provides great opportunities for the university in terms of research and education, while also bringing a new, academic approach to our sport."

Dr David Hassan, a senior lecturer at the University of Ulster's School of Sports Studies, has played a major role in the development of the various programmes. "The MKI version was the brainchild of Mohammed Ben Sulayem," he says. "He recognised that motor sport could benefit from offering an opportunity to interested and suitably motivated people within the industry to undertake a specific piece of research related to their everyday activities. They would gain a post-graduate qualification at the same time. It made perfect sense and so the University of Ulster worked with ATCUAE to make it a reality."

What will the PHD course include?
"We are offering opportunities at Masters level (leading to an MPhil) and at PhD level," Hassan says. "In both cases we're keen to hear from people who already have an undergraduate degree, but are interested in developing their career by enrolling on a post-graduate degree. There is no requirement to attend classes and work is undertaken at their normal place of work, on a part-time basis. Our aim is to be as flexible as possible for people employed in the industry and we will work with them to fit their academic studies around their employment."

Who will qualify for a place on the course?
"We're keen to hear from anyone who feels they would be interested in undertaking a piece of research leading to the award of a Masters or PhD degree. Ideally, they would have already secured a degree from another university, but someone with great experience who does not have a degree could still gain a place if we can demonstrate that their experience equips them appropriately for the demands of a postgraduate qualification."

ATCUAE President Mohammed Ben Sulayem.

"For its part, USJ, aware of the Global Plan for the Decade of Action for Road Safety 2011-2020, adopted by the United Nations, was looking to develop expertise in this field in order to contribute to capacity-building in the countries of the Arab Region to contribute to the implementation of the Global Plan. Thus, it has warmly welcomed the proposal of Renault CEO, Carlos Ghosn, who is also member of USJ Strategic Council, to support the establishment of such a Chair and Master's degree."

Salamé explains that students will not simply be those already in full-time education but will also be drawn from people already employed by companies and administrations, with the Renault Foundation providing grants.

"The Master's degree programme approved by the Lebanese competent authorities (the Ministry of Education and Higher Education) sets the admission conditions," he explains. "Thus, any university graduate with at least four years of studies and further studies or experience is eligible for the Master's programme. As usual, the University has set a selection committee to apply the relevant rules and regulations. However, it expects, in the short term, to admit all eligible candidates who satisfy the admission requirements."

"THIS IS A TRULY PIONEERING PROGRAMME, UNPRECEDENTED."
PROF. RAMZI SALAMÉ

The course is designed to prepare the students to address both current and future road safety needs, with a state-of-the-art knowledge of the problems and the current solutions. The initial programme is expected to have around 100 students and it is hoped that most of them will then go into employment in bodies that are actively involved in road safety work.

The academic programme will be supplemented by an internship, linked to a professional or research project and a dissertation. These research programmes will cover such topics as vehicle and infrastructure factors, driver behaviour, post-crash care and rehabilitation and will also look to develop comprehensive data sets and knowledge bases covering all aspects of road safety. It will also analyse that data gathered.

"This is a truly pioneering programme, unprecedented in the world in terms of its coverage of all the factors conducive to road safety," says Professor Salamé. "In view of the lack of road safety in the majority of the countries of the world, it clearly appears as a model particularly for other developing regions and big countries (India, Brazil, etc) to follow the example and implement similar programmes."

Educating those who will go on to educate and to lead the battle for better road safety will not be the work of a moment, but Professor Salamé hopes that the programme will start having a significant effect on road safety in the region relatively quickly.

"Achieving Vision Zero in road safety, - reducing to a strict minimum the number of deaths and serious injuries on the roads - needs a critical mass of specialists in the various fields tackled by road safety," he explains. "These include regulations for vehicle safety; safe roads and urban and rural environments; road user's behaviour; regulatory frameworks for road safety and law enforcement; management and financing of road safety.

"Thus, it depends how much time will be needed to constitute this critical mass of specialists, how acute is the problem, how large in the country, and so on," he concludes.

"Our hope is that the effects will be progressively demonstrated and that, by the year 2020, the deaths and serious injuries on the roads will be clearly reduced in the countries that will substantially participate in the programme and benefit from the Master's graduates."

TESTING TIMES

15 Years of Euro NCAP

Fifteen years after Euro NCAP delivered its first results it's no exaggeration to say that the organisation's star rating system has fundamentally changed how consumers and the auto industry view vehicle safety

This Ford Fiesta Mark IV was one of the first vehicles to be tested by Euro NCAP. It scored just three stars, with the body saying that damage could occur to knees and lower limbs. Four years later a revamped Fiesta scored four stars, with work on knee protection being singled out for praise by NCAP.

Read any glossy car brochure and it becomes immediately obvious this is the golden age of car safety. After five decades of fairly basic measures the past two have seen a massive increase in new technology. There's plenty of examples on view: material improvements in crumple zones, side impact bars and anti-submarining seats; passive electronics like ABS or electronic stability controls and latterly, new active safety features such as lane departure warnings and autonomous braking. There are dozens of other features, all chipping away at problem areas and all saving lives. But perhaps the most impressive safety measure of them all is not an individual gadget, programme or system. Perhaps it's the catalyst that encourages the provision of them all. This year the European New Car Assessment Programme - Euro NCAP - is celebrating 15 years of operation. We have a lot to thank it for.

Euro NCAP does not intrinsically push the technical boundaries of vehicle safety. Its claim to greatness is a knack for highlighting the exceptional and turning it into the ordinary. It sounds counter-intuitive to say so, but the great success of Euro NCAP to date has been deconstructing the idea of vehicle safety as a USP. It has squeezed the gap between the safest car and the average car until that gap barely registers. In doing so it has raised that average to levels many vehicle manufacturers long argued was impossible. Along the way it has informed and educated, found friends and annoyed opponents. It has won awards and been fêted by consumer groups, while also enduring criticism from within the industry. It has never been dull.

It is well-documented that the original impetus came not from the automotive industry but rather from a period of intense self-reflection in motorsport. The FIA group set up to study motor racing safety in the wake of the San Marino Grand Prix tragedies of 1994 wanted to incorporate into its work best practice from the road. It soon discovered a distinct lack of best practice in this area, and thus a programme that began looking at one thing serendipitously spawned something entirely different.

Jacob Bangsgaard, FIA Director-General for Region I (EMEA) and Euro NCAP board member explains: "The FIA group found that EU crash requirements had not changed since 1974 and were very limited: cars which performed very badly could pass the tests. At the same time, the car industry was lobbying against new safety measures on the grounds of cost. For this reason, the need for an independent European standard was clear.

"The initial challenge was to create stringent European standards for cars through European legislation. The campaign in the mid-90s did lead to new EU legislation with tougher safety

"THE FIA FOUND THAT EU CRASH REQUIREMENTS HAD NOT CHANGED SINCE 1974 AND WERE LIMITED"
JACOB BANGSGAARD, FIA REGION 1

standards for cars but with a starting date of 1998, and 2003 set for all new cars. This timeframe was not quick enough. In response, the FIA worked with officials in Brussels, as well as in the Departments of Transport in the UK and Sweden, who shared our view that more needed to be done to create a truly independent testing body. As a result of this work, Euro NCAP was set up as in 1996."

Once Euro NCAP began producing reports, public response was hugely positive, suggesting the new ratings addressed a need that had previously not been satisfied. "From its very beginning, probably because many tested cars were poorly rated, Euro NCAP captured a great deal of public audience, especially in Northern Europe," recalls Renault Chief Operating Officer Carlos Tavares.

While the public perception was positive, the response from the industry was not. 'Lukewarm' might be the kindest description, though 'suspicious' and 'hostile' might also be appropriate.

"Development was not greeted so warmly by the car industry," concedes Bangsgaard, "they lobbied against the new testing body, arguing that the test criteria was so strict that no car could reach the four-star rating for occupant protection."

Tavares, a former chassis engineer who led various Renault small and mid-sized car programmes in the 1990s admits it wasn't the most popular initiative: "Although based on new European regulation, Euro NCAP was not warmly welcomed because its rating method forced the industry to change its approach to car design. In addition, some car makers had developed their own internal requirements. For instance, at Renault, Euro NCAP was felt to be somewhat irrelevant because we used to focus very much on accident observation.

"However, Renault's perception rapidly shifted as Euro NCAP became widely acknowledged as providing independent safety assessment and valuable information for consumers. In a sense, Euro NCAP became a way for Renault to make safety more visible and understandable to its clients."

Renault's experience was not unique, though the French carmaker was perhaps one of those that accrued the greatest benefit from the standard by producing a string of class-leading vehicles. When the maximum score increased from four to five stars, it scored the first ever five-star rating with the Laguna 2 model, while the Renault Modus later had a breakthrough five-star performance for smaller cars.

For a long time the company held the record for the most five-star cars in its fleet. Volkswagen currently holds that honour, though Renault perhaps retains the public perception of being the car firm that outperforms its rivals in this particular arena.

"The original Megane was the best performer in Euro NCAP in its time, then Laguna 2 got the first five-star rating ever," says Tavares. "Aiming for the best rating became a Renault brand policy. This policy is still valid today."

Renault, along with Volvo, were among the first to use the rating as an advertising tool. "And that was a pivotal moment for Euro NCAP," says Bangsgaard. "From then on, car manufactures recognised that consumers were more likely to invest in cars which had four or five-star ratings. Since then the success of the programme has surpassed what anyone could have expected. The star-rating system has become a recognised benchmark Europe-wide for safety. That recognition and consumer respect has given car manufacturers no option but to aim to produce five-star cars."

But what is five-star performance? A common misconception is that Euro NCAP operates a fixed standard: it doesn't. Rather, the idea is that five-star performance should reflect the best available standards of the day, and as such the assessment regime is periodically updated.

"EURO NCAP BECAME A WAY FOR RENAULT TO MAKE SAFETY MORE VISIBLE AND MORE UNDERSTANDABLE."
CARLOS TAVARES, CHIEF OPERATING OFFICER, RENAULT

FIVE-STAR FIRST

The Renault Laguna 2 was the first car to achieve a five-star Euro NCAP rating. In particular, the assessment body hailed the Laguna's [1] frontal airbags with two-stage inflation, which provided increased pressure in more severe accidents and its thorax side airbag and advanced head curtain airbag [2]. It also praised the driver's seat belt [3]. This incorporated a double pyrotechnic pre-tensioner, which along with a load-limiting device prevented the driver's knees from hitting the facia and protected his thighs. However, despite the high score, EuroNCAP highlighted the fact that the car still did not do enough to protect pedestrians, with only the bonnet offering protection.

"Euro NCAP's system has migrated quite a bit from the early days," says Euro NCAP Secretary General Michiel van Ratingen. "I think from the original batch of tests, the automobiles of that generation would score very few stars today - maybe no stars at all.

"The car of 15 years ago is by no means comparable to the cars of today. The advancements have been significant, in everything from stability control to seatbelt reminders, and Euro NCAP has advanced with the changes. I'd say we started by being focused on crash testing, whereas now we're beginning to include avoidance technology into our ratings scheme

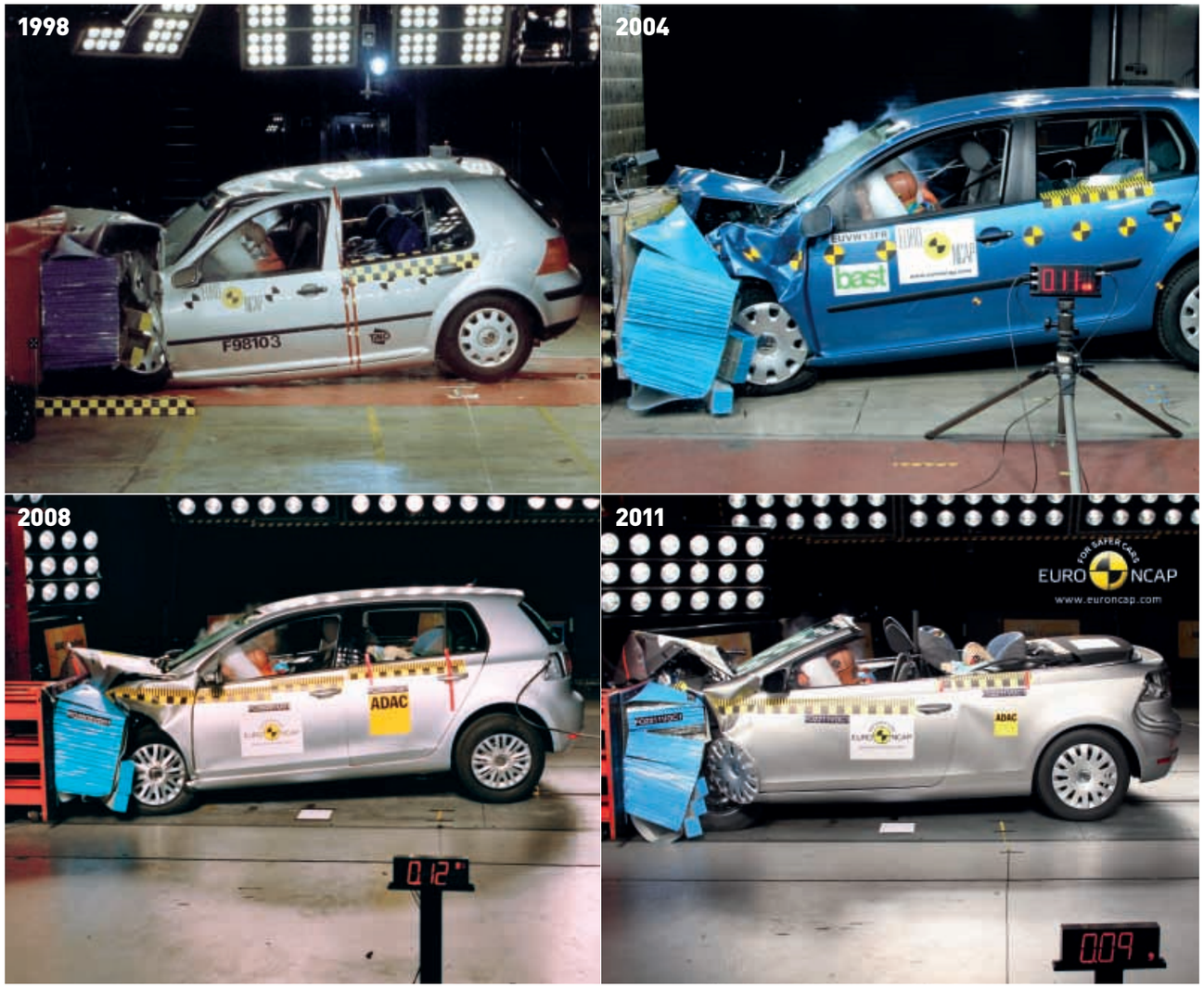
"We've always added new test procedures but in the last five years, to take into account these technologies, the number of new tests has increased. It's going to become much more challenging in the years to come if we include all of the driver assistance systems that are coming onto the market. There are a lot of new technologies that require Euro NCAP to expand the test suite."

In addition to his other roles, Jacob Bangsgaard is also secretary general of eSafety Aware, an association of international motoring organisations (including the FIA), car makers and technology suppliers that promote public awareness of next-generation vehicle safety systems. As such he is particularly keen to see these technologies represented within the Euro NCAP portfolio.

"It's very important that we promote advanced safety technologies that can prevent accidents from happening in the first place," he says. "Raising awareness of these new systems is vitally important, as we know that one of the main obstacles for increased deployment of these technologies is the lack of knowledge among consumers.

"Euro NCAP already hands out 'Advanced Rewards' for vehicle manufacturers who are meeting the best standards in this area, and has begun to integrate these systems more in the rating scheme."

Adding new tests into the mix is a way to mitigate against the phenomenon of car makers concentrating on test scores rather than holistic safety improvements. This does, however, remain an area of particular criticism for Euro NCAP, as it does for any long-established and reputable product assessment programme. In education



FOUR ROUNDS OF GOLFS

Several iconic brand names have been constant through Euro NCAP's history. Volkswagen's Golf provides a good yardstick of the way in which the assessment has changed over the past 15 years

1998 1.4l (Golf MkIV): The Golf scored a maximum four stars (as it then was) for Adult Occupant protection and two for Pedestrian protection. Among the technology fitted to the vehicle were seatbelt pretensioners, driver and front passenger frontal airbags, and ISOFIX child seat restraints. Test notes reference a good performance in frontal- and side-impact tests. The ISOFIX system was criticised for 'problematic' installation and the car taken to task for poor safety labelling in general. For pedestrian impact, protection was good for head impact but poor for both upper and lower legs, with the suggestion more work be done around the bumpers and bonnet leading edge.

2004 1.6l (Golf MkV): This model scored five-stars for adult protection, four for child protection and three for pedestrian protection. Added to its safety features were front seatbelt load limiters, side body (thorax) airbags and side head (curtain) airbags. Overall the restraints and airbag system were assessed as good, and side impact protection was noted as being "impressive". However, it was noted that drivers suffered knee injuries impacting hard points in the front fascia during frontal impacts. For child safety EuroNCAP noted good protection for heads but had some concerns over chest-loads being a little high.

2008 1.4l (Golf MkVI): The MkVI again scored five stars for adult protection, four for child protection and three for pedestrian protection. Addressing a problem with the previous model, the new Golf was now fitted with driver knee airbags. For child protection the Golf had excellent impact tests and for pedestrian impact the bumper was rated with maximum points for leg protection and the bonnet leading edge as good "in some areas".

2011 Cabriolet: A MkVII Golf is expected to be on sale next year but for the moment the latest Golf derivative tested is the cabriolet version of the MkVI. Reflecting Euro NCAP's post-2009 ratings revamp, the five-star Golf Cabriolet assessment is more inclusive of electronic safety measures with Electronic Stability Control among the noted features. Also noted were seatbelt reminders. The Cabriolet scored 96 per cent for adult protection, including a good score in the new whiplash test for rear-end collisions. It scored 86 per cent for child protection.

it's known as 'teaching the test': within the automotive industry it is called 'cycle-beating.'

The assessment is supposed to evaluate the broad-brush capability of the vehicle but the results are distorted when the manufacturer begins designing the vehicle specifically to do well in the test. It's been a particular bugbear of emissions and economy cycle testing, but is also applicable in crash research. The answer from Euro NCAP is that this simply is a price that has to be paid, and a vehicle designed to have enhanced performance in testing is still a vehicle that will perform well in the real world - providing the tests are well designed. If anything, if places a greater responsibility on Euro NCAP to make sure its regimen is faithful to real world conditions.

"Is there an element of cycle-beating? Of course there is; this is the downside to all standards and we are not excluded there," says van Ratingen. "I would say the good manufacturers develop cars for real world safety and make sure they get a good rating as well. The other manufacturers with less money to spend focus more on getting a good rating and hope that our procedures and our protocols will make the cars also safe on the road. That's quite a bit of difference between one and the other.

"The Korean car makers are good examples: today they are very good at selling a lot of vehicles into the European market," he adds. "They have short development times and don't allow themselves to look much beyond our protocol. Their focus is on meeting our Euro NCAP targets - and they do that very well - while not having, for example, much involvement with accident research in Europe to see how their cars are performing.

"That contrasts with companies like BMW or Mercedes or Volvo, who have a lot of knowledge and follow up vehicles on the road, so see if what they believe is right, is actually delivering. There's a difference there. To be really honest it worries us to a lesser extent because we believe that our protocols have improved and have a better reflection on real world performance.

"With any new protocol we develop, we really try to check whether this is driving technology that is effective also in the real world. There's nothing wrong with meeting our protocols and trying to get a maximum score, if you're sure ultimately that translates into real world safety."

The upshot is a great many cars with a maximum five-star rating. In the early days achieving a maximum was the exception rather than the rule but that paradigm has neatly reversed over the course of the past decade. It's excellent news in terms of raising the standard but it brings with it problems of its own. The concept of Euro NCAP was an assessment that would impartially differentiate cars on their safety performance, allowing consumers to make rational choices with good information. That in turn was a mechanism by which market forces compelled manufacturers to improve safety. Faced with a vast array of five-star rated vehicles, from manufacturers who prioritise such a rating in their design, consumer choice can't operate effectively. It's a nice problem - but it's still a problem.

"That we have too many five-star cars is a criticism we hear quite a bit," admits van Ratingen. "Of course that was always the way it was likely to go: all the manufacturers have had time to study the protocols and design with them in mind, so obviously the resolution has come down. We could respond by making the tests twice as difficult but the problem with that is it wouldn't necessarily translate into safety in the real world - and then we would have an issue."

This loss of resolution obviously has a detrimental effect on the carmakers with the best records in the field, though speaking for Renault, Tavares echoes the sentiments expressed by van Ratingen.

"WITH ANY NEW PROTOCOL WE DEVELOP, WE TRY TO CHECK WHETHER THIS IS DRIVING TECHNOLOGY."
MICHIEL VAN RATINGEN, EURO NCAP

"We believe it is good thing that most carmakers aim at getting five-star ratings. Renault's target is to improve road safety, not to 'win' the Euro NCAP 'competition'. Euro NCAP should avoid evolving toward an elitist approach to safety based on expensive technologies providing marginal improvements. Being a consumer rating, over-tightening the rating criteria to reduce the number of five-star cars could be tempting but it could prove counter-productive if medium range carmakers don't follow the trend. The main focus should be placed on real-road and affordable safety."

In 2009. Euro NCAP announced a new road map for its assessment programme, particularly concerning the years 2010-2015, but including ideas stretching all the way out to 2025.

"It's a complete overhaul of the ratings system," explains van Ratingen. "The focus is strongly adding the new, emerging technologies that are going to save lives in the future: autonomous braking, pedestrian detection, lane departure warning, speed assistance technologies. All of these are already on the market but will be rolled out in more models at much higher volumes in the coming five years. We will develop a ratings system where we hope to again make a distinction between vehicle manufacturers that bring vehicles to the market with all of these systems and make them work well, versus those that don't have all these systems and therefore will deliver less safety."

The success of Euro NCAP has led to several sister organisations in other regions and a healthy growth for the 'Global NCAP' family. Latin NCAP has recently been started, sharing tests and testing facilities with Euro NCAP, providing assessments for the South and Central American market.

It is interesting to see that cars tested for Latin NCAP, graded in the same way as Euro NCAP, have very low scores. There are differences of culture and spending power but some of that divergence is almost certainly accounted for by Europe having 15 years of exposure to NCAP and Latin America not. History has already started to repeat. with initial manufacturer reluctance giving way to acceptance and collaboration, and already scores have begun to improve significantly. The smart money is that the pace of improvement will be significantly quicker in Latin America than it was in Europe. The reason being that the template for success already exists. The world knows Euro NCAP works: it's seen the results.

INPERSON

INPERSON

TALKING TO THE PEOPLE WHO HELP KEEP THE WORLD OF THE FIA TURNING

Drawn to motor sport by "driving the family Ford too fast", **NICK CRAW** has parlayed a passion for speed into a lifetime of racing and business success. As President of the FIA Senate he's charged with developing, at board level, the finances of the federation

Nick Craw could have ended up in the US Senate. He did think about running for public office at one point in his career, and had the qualifications for the role, but his passion for motor sport was such that he preferred racing to politics.

After graduating from Princeton University he joined the staff of Project HOPE (Health Opportunities for People Everywhere), an international health care organisation best known for its hospital ship, the SS Hope, which, from 1960 until 1974, travelled the world helping to improve the health of nations. Craw later became director of operations for HOPE, based in Washington DC where his love of motor sport finally found an outlet.

"Like many in their youth, I always enjoyed the thrill of speed," he says. "I drove the family Ford too fast on country roads, learned to speed shift, drove a borrowed Austin Healey on a drag strip and rode a rebuilt 125cc Harley, until I could afford my first car, a TR3. That seed was just waiting for fertile ground and a mentor, which occurred when I became acquainted with a Formula B racer in Washington DC who taught me about set-up and tuning. The rest, as they say, is history."

His initial efforts were promising. "All of my preparation took place in Formula B/Atlantic cars, in the SCCA national championship and then with Fred Opert Racing in the L&M Continental Championship," he says. "This took me all over the US, Canada and Mexico, and I also raced in Japan, Colombia and the UK. In addition, I did the 1972 Daytona and Sebring World Championship of Makes events in a two-litre Chevron."

His racing career continued to gather pace and he turned professional in 1971, even managing, in 1973, to combine his track activities with an appointment as director of the Peace Corps, where he looked after 7,400 volunteers in 69 countries. In that same year he raced a BMW sports car in the International Motor Sports Association (IMSA) series, taking a first win there on his way to the '73 title. Two years later he repeated the achievement, again landing the BF Goodrich Radial Challenge crown.

In the mid-1990s he raced again, in touring cars, and won the American Road Race of Champions and, on two occasions, the Twenty Four Hours of Nelson Ledges. "After retiring, I took an MBA at Harvard and planned to devote myself to investment banking," he says. "Instead, in 1983, I took a diversion to the Sports Car Club of America (SCCA) as President and CEO for 17 years."

The SCCA had 55,000 members in 110 regions, and sanctioned 2,000 amateur and professional events each year.

"During that time I was also a Vice President of the Automobile Competition Committee for the United States (ACCUS) and Chairman of its legislative arm, the National Motorsports Council," he adds.

In 2001, however, Craw decided to leave that role and became Executive Director of US Sailing. Four years later, however, he was asked to return to the ACCUS as its President. It led to him replacing Berdie Martin on the FIA World Motor Sports Council during the presidency of Max Mosley. He later became Deputy President for Sport, "and when Jean Todt ran for the role of FIA President, I joined his ticket as President of the Senate."

The FIA Senate is a body that concentrates its efforts on the finances of the federation.

"The Senate is charged with development and oversight of the FIA's annual budget, its investment portfolio, risk management and major contracts," Craw explains. "Its primary mission is to support the FIA President, provide transparency to the General Assembly and to ensure that the FIA's major initiatives are properly funded while also trying to build up its financial reserves."

Craw is also a member of the Statutes Review Commission, which is currently developing a substantial overhaul and modernisation of FIA governance, and says that a substantial body of revisions to the ISC has already been approved at the 2011 General Assembly. "We will also have another, smaller section ready for this year's General Assembly in Istanbul," he adds.

One of his other jobs is as a member of the Fund Management Committee of the FIA Institute, which approves grants by the Motor Sport Safety Development Fund, with the aim of raising standards in motor sport across the globe. Craw is also on the board of trustees of the FIA Foundation.

"In tandem with all that, there is also the work with ACCUS, co-ordinating the FIA's involvement in motor sport activities in the United States of America, which this year includes our three new world championship events: the WEC round we had at Sebring, and the upcoming WTCC round at Sonoma and the US Grand Prix in Austin. So all of that keeps me pretty busy!"

NICK CRAW served as President of the SCCA for 17 years, a decade longer than any other CEO. His time there, in which he helped double membership, was followed by his appointment as President of ACCUS. That led to membership of the FIA's World Motor Sport Council and in turn led to his subsequent election as President of the FIA Senate.

PHOTOGRAPHY: VLADIMIR RYS

INPERSON

With a host of F1 titles behind him with Renault, there are few men more qualified to look into the future of motor racing engines than the FIA's new Head of Powertrain, **FABRICE LOM**

As the new Head of Powertrain at the FIA, Fabrice Lom's job is to look at the rules and regulations of all the FIA championships and develop a strategy for sustainable powertrains that work for all of them, both independently and selectively. It is his goal to ensure that the sport is moving in the right direction for the federation, and for the automobile industry. In this, he works alongside the federation's Technical Director Bernard Niclot.

Lom joined the FIA at the end of last year after a career at Renault Sport in Viry-Châtillon, Paris, where he spent the past 15 years.

He grew up in the town of Pau, in the south-west of France, in the shadow of the Pyrénées. As such it was perhaps inevitable that he would be interested in motor racing as Pau has been one of the centres of the motor sport since competition began. Indeed, Pau was the venue for the first automobile race use to be branded a 'Grand Prix'. That was back in 1901 when locals borrowed the term from a well-known local horse race.

Since the 1930s the Pau Grand Prix has been a celebrated street race. One of the circuit corners is known as Lycée, because it is located next to the school where Lom spent his teenage years, the Lycée Louis Barthou. Due to the noise of the cars, the school traditionally cancelled classes for two days during the race weekend, leaving the students free to watch the action, which at the time included Formula 3000, Formula 3 and Formula Renault.

Lom developed a passion for motor sport and decided that to become a racing engineer. He was a good student and when it came to choosing his further education he had a choice between the École Supérieure d'Electricité, commonly known as Supélec, and the École Centrale de Lyon. Both were respected engineering schools but Fabrice's father felt that Supélec had more standing and would lead to a better job in the future.

PHOTOGRAPHY: MAGALI DELPORTE, LAT

"That was not what I really wanted," Lom explains. "So I suggested writing a letter to Bernard Dudot, the head of Renault Sport, to ask him for advice. At the time he was the top engineer in Formula One in France and so he seemed like a good person to ask. It was nice of him to answer my letter.

"He suggested that I should go to the École Centrale and then afterwards spend a year at the École Nationale Supérieure du Pétrole et des Moteurs, which I did not even know about at the time," Lom adds. "So I did what he suggested and when I had completed all the courses I wrote back to him and explained that I had taken his advice and asked whether he would employ me at Renault Sport. He remembered this kid writing to him and I guess he felt that I had showed my dedication to motor sport by going through all the courses, so that was very good for me."

Lom was also lucky in that he arrived in Formula One at a time when Renault was changing.

"At that point in time Renault had announced that it was going to leave Formula One at the end of 1997," he explains. "That meant that some of the people there had already left, so I was able to make very quick progress. I was a race engineer with Heinz-Harald Frentzen at [Renault partner team] Williams F1 in 1997."

That was the last year of Renault's official involvement in the sport and ended with a dramatic showdown in Jerez de la Frontera, where Frentzen's team-mate Jacques Villeneuve won the World Championship but only after Ferrari's Michael Schumacher had attempted to drive him off track.

The following year Renault engines continued to be used in Formula One but they were badged as Mecachrome and in the course of 1998 Super Performance Competition Engineering signed a distribution agreement with Mecachrome for 1999 and so the engines were later rebadged as Supertec units.

In 2001, Renault returned to F1 by purchasing the Benetton team and Renault-designed engines once again carried the company's name. Lom stayed with the Viry-Chatillon team throughout the period and then played an important role in the build up to Renault F1's World Championship-winning years in 2005 and 2006, when he worked as the motor engineer for Giancarlo Fisichella.

In 2007, Renault expanded to supply Red Bull Racing and Lom was given the role of chief engineer of the customer programme. He continued to work with Red Bull Racing, although in 2011 he took on a slightly different role, working as the technical liaison between Renault and the team, rather than travelling to all the races.

It was during this period that a new role opened up, in Paris.

"The FIA contacted me and proposed a job," he explains. "I was quite happy at Renault but it sounded like a very interesting opportunity for me and so I decided to take it.

"It is a very busy role. I am in charge of all powertrains that the FIA is involved with, from Formula One to the World Rally Championship, the World Endurance Championship and the World Touring Car Championship, Formula 3 and even land speed records. Really, it is anything that comes under the FIA banner.

"Since I started I have been working on the new regulations for the World Endurance Championship and also discussing the details of the 2014 F1 rules with the manufacturers," he adds. "I am also working on new fuel regulations and with the Technical Working Group."

One key element of the job is to listen to the automobile manufacturers to hear what they want to be doing in the future, perhaps in five or 10 years from now. It takes around three years to go through the processes of creating new regulations and so the FIA is constantly trying to be aware of what is going to be needed in the future, rather than making decisions and hoping that the manufacturers are happy with that.

It has been clear for some time that the industry is looking towards hybrid electric cars, with smaller more efficient internal combustion engines. Part of the job is make sure that work being done in one championship can be useful in other series as well and Lom has been working hard to make this happen.

FABRICE LOM can claim to have had a hand in five Formula One world championships in his time as an engineer with Renault Sport, having worked with the team during the title-winning seasons of Jacques Villeneuve (1997), Fernando Alonso (2005, '06) and Sebastian Vettel (2010 and 2011). With a successful 15-year career in F1 powerplants behind him, Fabrice joins the FIA as Head of Powertrain following the departure of Gilles Simon.

INPERSON

Recently elected as President of the Automobile Club d'Italia, **ANGELO STICCHI DAMIANI** believes that the club's first focus must be on youth and safety

Committed. Firm. Enthusiast. These are the principles Angelo Sticchi Damiani has set out to follow in his new role as President of the Automobile Club d'Italia (ACI). While he is a passionate collector of vintage cars, the new President has set his priorities on the future, with a particular focus on young people, sport and international co-operation.

"Without neglecting problems that may sometimes be difficult, such as the economic downturn, high car taxes, expensive car insurance and high fuel prices - among the highest in Europe - we are well aware that our main mission here concerns young people. For an organisation such as the Automobile Club d'Italia, especially when dealing with road safety issues, youngsters should be the main target. Road accident statistics are quite self-explanatory: a large number of people between 18 and 22 are involved in road accidents. This is the issue we should tackle."

The ACI President firmly believes that taking action means taking preventive measures in the first place. This is why his organisation is developing a range of activities that start with the youngest drivers of all.

"We organise events for children once they turn eight years old," he says. "They are given mini go-karts and are allowed to drive them on closed tracks equipped with everyday road signs. That's the first step towards learning about road safety, as well as gaining respect for life and also for rules."

That's not all however. "The ACI has worked hard for many years to introduce accompanied driving from the age of 17 - one year before the Italian law that was previously in force. This provision was finally approved in April 2012. Driving with a skilled adult driver makes young people more responsible and gives them the opportunity of getting into traffic with more support to improve their driving skills."

The ACI also strongly supports safe driving courses. "Not only does safety benefit from the development of this tool - which is already compulsory in some nations - but the whole country could be involved in this cultural revolution, with a view to spreading safe driving courses more widely. This would make it possible to save thousands of lives on roads," he says.

The ACI President also points to young people's passion for motor vehicles as a key method of pushing home issues surrounding road safety and that their enthusiasm is a means of allowing the club to actively involve young people.

"Passion is the key word," he says. "Although youngsters are most frequently associated with road accidents, this should not automatically mean that they should be frightened or criminalised. The whole community of drivers should be able to share the wonderful joy of travelling by automobile, provided this is done in a safe and sustainable manner."

Passion for driving, mobility, the car and sport is, Sticchi Damiani insists, "part of the ACI DNA".

"Italy has an extraordinary motor sport tradition," he says. "The name Ferrari does not need any explanation, and furthermore, behind this name a whole dynamic world exists.

"Promoting sport, contrary to received wisdom, also means promoting better driving rules," he adds. "Competing does not only mean pressing hard on the accelerator. I am well aware of this myself as I was a rally driver in my younger years. We aim to make young people more familiar with racetracks, as well as raising their awareness of the utmost importance of complying with rules, when competing and also during day-to-day driving on the road."

Sticchi Damiani is also President of the Italian Motor Sport Commission and concedes that there are matters for concern at the pinnacle of Italian motor racing.

"Sport is a feather in ACI's cap," he says. "Italy has an enviable tradition in motor sport but today, for the first time for many years, there is no Italian F1 driver. However, this is just a problem of passing from one generation to the next. We are concerned by this and in co-operation with the major motor racing stakeholders - such as the Ferrari Driving Academy and our CSAI-Abarth Formula Championship - we are already bringing up a new generation of drivers who are ready for the next great leap".

Apart from an interest in circuit racing, the new President of the ACI has a particular enthusiasm for rallying.

"Rallying is one of the most beloved forms of motor sport and has the longest heritage," he smiles. "A lot of rallies have been and are still run in Italy, and we want to promote this aspect. We are also lucky enough to run what is considered the most beautiful rally in the world, the one taking place in Sardinia. To me, it's not only an important piece of heritage belonging to the fans, but also to the country as a whole - and especially to the enchanted island of Sardinia."

The Automobile Club d'Italia and its President aim also have ambitious international goals. "We contributed to the birth of the FIA, and ever since then we have put our full support into international organisations. There's no area of action where a country can operate on its own: cooperation is vital for everyone. We are lucky to be affiliated with a compact and powerful federation such as the FIA, which has very clear ideas, always involves us completely, and urges us to perform at our best. Our support of the FIA Action for Road Safety campaign is a perfect example of our will to stand shoulder to shoulder with the FIA in the fight to achieve our goal of saving millions of lives on roads worldwide."

ANGELO STICCHI DAMIANI A rally driver in the 1970s, Lecce-born Damiani has been a member of the Italian Motor Sport Commission since 1975 and has organised the Rally of Salento since 1973. He has been President of the Automobile Club of Lecce since 1990 and has been an ACI Executive Committee member since 1994. He has been President of the organising committee of WRC event the Rally d'Italia Sardegna. Since 1998 he has represented Italy on the FIA Circuits Commission. In 2009, he was elected President of the Italian Motor Sport Commission He became ACI's Vice President in 2011 and was elected President of the Automobile Club of Italy in December 2011. He has also participated in three editions of the Mille Miglia Storica (1997-1999).

INPERSON

PHOTOGRAPHY: ALBAN KAKULYA

With a range of sporting rights agreements on the table, the FIA needed strength and depth on its legal bench. Possessing a strong background in sports law, **KYM FLETCHER** was the perfect choice as the federation's new Legal Counsel

British lawyer Kym Fletcher has a colourful career behind her spanning intellectual property law in London and Brussels, commercial contract work for the World Cup and Olympic Games organisations, and a period organising television contracts for the European Broadcasting Union. Along the way she has also been a property developer... and had two children.

Fletcher's journey to her new role as Legal Counsel for the FIA in Geneva began in the unlikely setting of Rhyl, a quiet seaside town in North Wales. "Everyone says: 'I went there once'," she smiles. "It wasn't very glamorous."

She won a place to study international law at Warwick University and from there furthered her law studies in Chester before being taken on by the international law firm Denton Wilde Sapte in London. As an institution that can trace its roots back to the 1780s, Fletcher recalls it as being "very old school". The role there was a baptism of fire.

"At that time it was not a very enlightened environment," she says. "It was very male-dominated world. They were all public schoolboys and the junior members of the firm were treated like slaves. We worked around the clock and at weekends; it was quite a tough time. And they were not big on women. I think there was one female partner in the firm, but she got pushed out when she decided to get married. It was all rather grim."

It was good training, however. She specialised in intellectual property law and was sent to Brussels to take a course with DG13, the European Commission's directorate with responsibility for Telecommunications.

"I liked Brussels," she says. "And the working atmosphere was different, so when I went back to London I found that I did not really want to be there any longer. England was in a recession at the time and so I started looking around for a job in Brussels.

"A recruitment agency then contacted me with a position working for International Sport and Leisure (ISL), a sports marketing agency in Switzerland."

ISL dealt with the rights of many of the world's leading sports federations, notably the International Olympic Committee, the Fédération Internationale de Football Association (FIFA), the Union of European Football Associations (UEFA), the Association of Tennis Professionals (ATP) and the International Association of Athletics Federations (IAAF).

"It was a very interesting place to work," she says. "It was a much less closed atmosphere than in London and much more nurturing. It was also a very different kind of job as I was travelling all around the world and dealing with a lot of big blue-chip companies.

"My job was to arrange the commercial contracts for the 1994 World Cup in the United States, and the 1996 UEFA European Football Championship in England. After that came the 1998 Winter Olympics in Nagano and the Summer Olympics in Sydney in 2000. It was a lot of fun."

Since the collapse of promoter North One Sport, the future of the WRC has been one of Fletcher's main concerns.

After a number of years on the road, she decided it was time to settle down a little and took up an offer to become Head of Legal Affairs at the European Broadcasting Union, dealing with television contracts and the legal arrangements of the operational side of the business.

However, after five years the role proved to be rather too quiet and Fletcher decided it was time for new challenges. By this time she had two small children and had also begun to dabble in property development. However, she soon decided that she was better at being a lawyer than she was at running building sites.

A recruitment consultant suggested that she try the FIA, which was looking to strengthen its legal team. She quickly joined the staff of Sébastien Bernard, the FIA's Head of Legal Affairs, in July 2010.

"I have never been very much into sport," she admits, "but I love the business of sport and it was clearly a very exciting role, helping the FIA with its commercial arrangements. It has been a very busy and intense period.

"Motor sport was a bit of a mystery to me and the agreements were all rather fragmented. I saw it as a wonderful opportunity to help the FIA to restructure its arrangements.

"I have been heavily involved in the re-negotiation of the F1 Concorde Agreement, mainly in terms of preparing the documentation. The World Rally Championship has also been taking up a lot of my time because of the collapse of North One Sport and what has happened since. It has been interesting looking at all the options for the future and examining what might be best for the FIA.

"The Formula One negotiations are ongoing and we also have the World Touring Car Championship contract expiring this year, the GT World Championship contract in 2014 and European Rallycross Championship as well. There is no shortage of work!"

KYM FLETCHER joins the FIA legal department having handled rights agreements for some of the world's major sporting events, including football's World Cup and the Olympics. Her main tasks in recent months have been looking after the FIA's interests during the re-negotiation of the Formula One Concorde Agreement and dealing with the search for a new promoter for the World Rally Championship.

Club Profile

Touring Club Malta

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President: Mannie Galea

It was founded when? Independent from the UK since 1964, Malta is a group of islands in the Mediterranean, located between Sicily and Libya. It has a rich history but a population of just 400,000. In 1975, Dr Philip Agius, who was Fiduciario Aziendale of Touring Club Italiano in Malta, proposed that the country create its own automobile club. The government supported the idea and offered the club the patronage of the Hon. Minister of Tourism. It was agreed that the touring club would represent the interests of automobile and motorcaravan users, cyclists, campers and even motor yacht owners. The club was recognised by the Alliance Internationale de Tourisme (AIT) in 1984.

Who is in charge? The current TCM President is Mannie Galea (51), who replaced founder Dr Philip Agius last year. An architect and civil engineer by trade, Galea leads an award-winning private company, specialising in restoration work. The company has played a key role in the renovation of Malta's capital Valleta and has recently expanded its operations into North Africa, notably in Libya. Galea has been involved in sporting activities in Malta since his youth and in addition to his role with the Touring Club, he is also chairman of the Birkirkara Football Club Youth Nursery.

What are the club's main achievements? The club was the first organisation in Malta to offer services such as MTC towing and breakdown facilities, touring information and medical and legal assistance. For 25 years it has been conducting these activities for foreign drivers visiting Malta and for its members while abroad. TCM is also proud to have provided judges for the FIA's International Court of Appeal, which enabled Malta to play an active role in FIA activities. The club was also the first organisation in Malta to sign the EU Road Safety Charter. One very successful campaign was conducted in partnership with Maltapost, using the club's logo and road safety message as the cancellation stamp for all mail in the country.

Goals for the future? The club is currently working on several projects, such as the establishment of a Maltese Transport Museum at the former Boiler Wharf in Senglea. It is also working to create a motorcaravan site for members and a cycle path in Ta' Qali National Park. Another aim is to boost club membership and also membership of ITSMalta, which was founded in 2007, and promotes the benefits of Intelligent Transport Systems. It has also proposed the creation of a centre for professional driving. There's also a plan to create a Malta Road Safety Council.

FIA CALENDAR

➜ JULY

27 Historic Technical Working Group **Geneva**
19 WRC Commission **Paris**
24 Circuits Commission **Paris**
14 Working group: New Energy Championships **Paris**
26 Touring Car Commission **Paris**
27 Historic Technical Working Group **Geneva**

➜ AUGUST

4 Medical Commission **Paris**
21 Single-seater Commission **London**
Hill Climb Commission **Paris**
22 Off-road Commission **Paris**
Elec. & New Energy Champs Commission **Frankfurt**
23 Drag Racing Commission **Sweden**
29 Historic Motor Sport Commission **Paris**

➜ SEPTEMBER

03 Manufacturers' Sporting Committee **Paris**
11 Homologation Regs Commission **Paris**
12 Road Patrol Contest 2012 **Croatia**
14 GTT F1/F1 TWG **Paris**
21 Euro Traffic Education Contest **Poland**
24 Euro Club Media Alliance 2012 **Brussels**
25 Transport & Mobility WG **Brussels**
26 Legal & Consumer WG **Brussels**
26 Technical WG **Brussels**
28 CMSA/WMSC **Paris**

INMOTION
The international magazine of the FIA

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