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BOTTAS **IS THE REAL FLYING FINN**



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DAKAR RALLY

The toughest test of all



KRISTENSEN LOOKS BACK

Le Mans legend on his best races

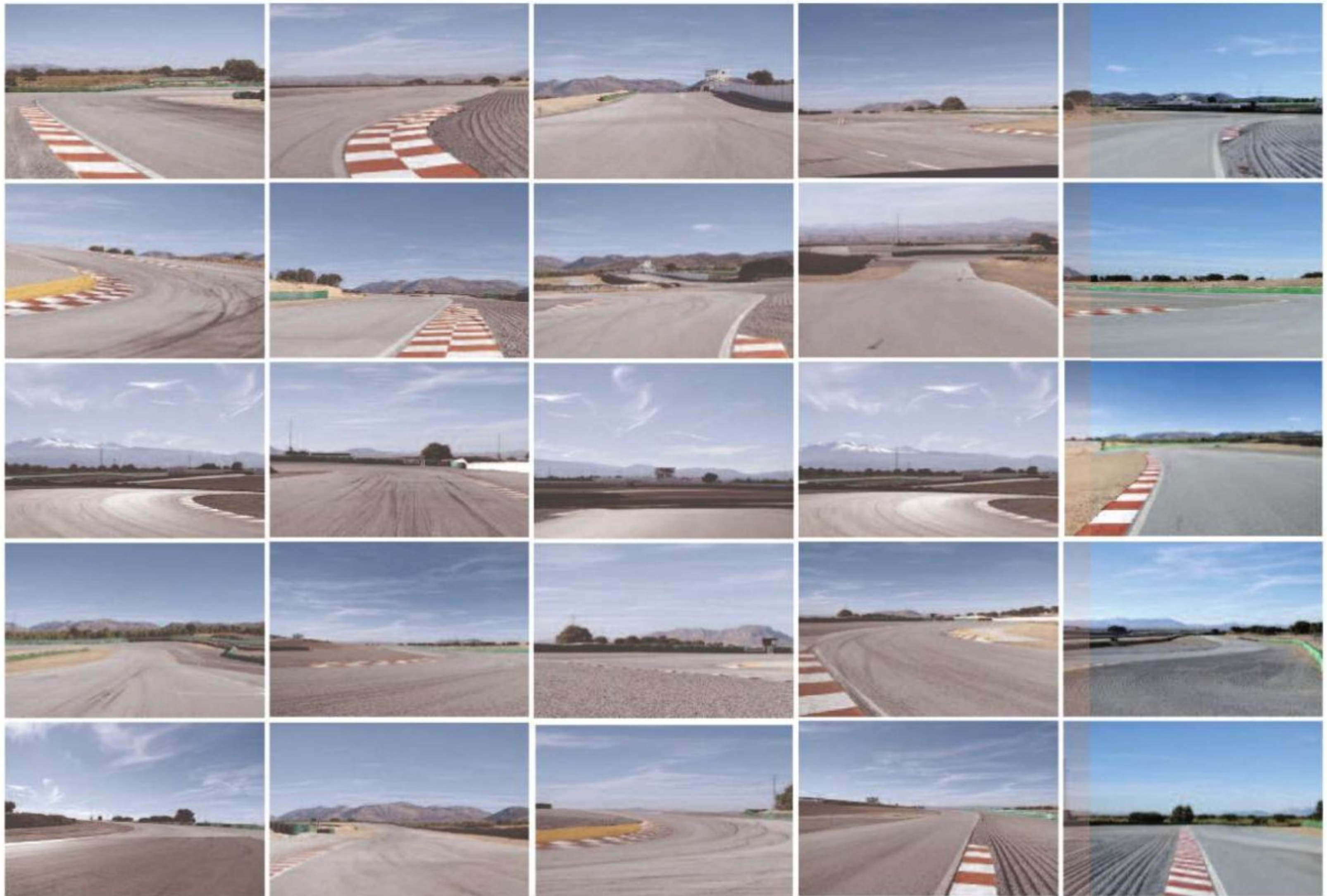




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Cover images:
Charniaux/XPB; XPB/LAT

POLE POSITION

Bottas better than Raikkonen? You bet...

SOME OF YOU ARE PROBABLY FURIOUS AT AUTOSPORT'S cover. Certainly, it's bold to suggest that a driver with only six grand prix podiums to his name has displaced Kimi Raikkonen, a driver surely among the most talented ever to have raced in Formula 1, as top dog in Finland. But it's justified.

Since he first started winning races in cars in Formula Renault in 2007, it's been clear that Valtteri Bottas had something about him. Over the years his reputation has deservedly grown. Many questioned the 'hype' after a disappointing first year in F1 with Williams in 2013 in terms of results, but third on the grid in the wet in Canada and eighth at Austin showed that it was car, not driver, that was the weak link in that uncompetitive package.

Bottas made major strides in 2014, striking a balance between attack and consolidation, recognising when he needed to push to the limit after his initial mistake when he hit the wall in Australia.

By recognising just how bright his future is by putting him on the cover, we are hailing just how good he is, not attacking Raikkonen in any way. It's just that the baton is being handed over from one generation to the next.



EDD STRAW EDITOR

edd.straw@haymarket.com

@eddstrawF1

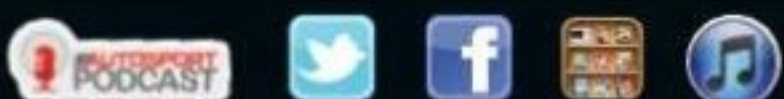
COVER STORY

"I do feel like this was the first proper season in F1 – where people can tell what I can do"

Valtteri Bottas, p12



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THOMPSON/GETTY

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THE BIG PICTURE

Mini racer Joan 'Nani' Roma is bidding for his second-straight four-wheeled Dakar Rally victory. The Spaniard also won it on two wheels – on a KTM back in 2004





This year in F1

HONDA'S FORMULA 1 RETURN

The McLaren-Honda partnership returns to F1 in 2015, with expectations sky-high for the famous alliance.

Following a troubled first public run during the two-day test that followed last year's Abu Dhabi Grand Prix, with the 2014 car adapted to take the Honda engine managing just three complete laps, the team is still optimistic. With an all-star driver line-up of Fernando Alonso and Jenson Button, the potential of

the 2015 car will be laid bare.

Honda F1 boss Yasuhisa Arai said: "For Honda there are two reasons [to come back to F1]. One is the challenge of the hybrid technology and the other is that Honda DNA is always racing. I'm very pleased to join McLaren because we have a great history."

Honda joins the 1.6-litre turbocharged V6 era a year later than rivals Mercedes, Renault and Ferrari, and will not supply any customer teams until next year.

REMEMBER WHEN



McLaren-Honda's last win in F1 came in the Australian Grand Prix in 1992 courtesy of Gerhard Berger.



6



Verstappen in the spotlight

Dutchman Max Verstappen will become the youngest driver ever to start a world championship Formula 1 race in March's Australian Grand Prix.

The 17-year-old starred in the Formula 3 European Championship last year during his first year in cars, and performed well in his three Friday outings last year. Paired with fellow rookie and Formula Renault 3.5 champion Carlos Sainz Jr, he will be under intense scrutiny.

DID YOU KNOW?

Jaime Alguersuari currently holds the record as youngest F1 race starter at 19. Verstappen will be 17 years, five months and three days.



For all the breaking news, visit **AUTOSPORT.COM**



Alonso back in McLaren fold

Fernando Alonso's switch to McLaren will be one of the biggest stories of the season given how his last foray with the team in 2007 ended.

Alonso left McLaren after a year in acrimonious circumstances, but the team's need for a star driver and the deterioration in the Spaniard's relationship with Ferrari have set up a reunion that is one of the most unlikely in F1 history.

ALONSO AT McLAREN 2007

17 STARTS | **4** WINS

2 POLES

3RD CHAMPIONSHIP

3 FASTEST LAPS



It's Lewis v Nico, round two

Mercedes is expected to remain the pacesetter in 2015, meaning that Lewis Hamilton and Nico Rosberg head into the season as favourites for the title. Last year relations between the pair became fractious, but a civil war did not break out, but if they reprise their battle the relationship between the pair will remain a major talking point.

BIG NUMBER

12 Number of times Rosberg outqualified Hamilton last season

Kvyat steps up

Many questioned whether GP3 champion Daniil Kvyat's promotion to F1 with Toro Rosso in 2014 had come too soon. This year he joins Red Bull's A-team in place of Sebastian Vettel. After promising performances last season, the 20-year-old will be under pressure to emulate team-mate Daniel Ricciardo's strong start.



Lotus gains Merc power



Lotus switches from Renault to Mercedes power this year, which should ensure it improves on its eighth place in last year's constructors' title race. "Mercedes have done a really amazing job this year," said Romain Grosjean in late 2014. "They will still be ahead [next year]."

Nasr in Sauber line-up

Felipe Nasr makes his F1 debut this year after a season spent dovetailing Williams testing duties with his third GP2 campaign, in which he finished third. The Brazilian is a former Formula BMW Europe and British F3 champion. He will partner Marcus Ericsson at the Swiss squad.



Mexico joins 2015 calendar

The 2015 Formula 1 calendar features a return to Mexico for the first time since 1992. A reworked version of the old Mexico City track will be used. Korea also returns, albeit on a provisional basis with the venue to be confirmed.



2015 CALENDAR

DATE	LOCATION
March 15	Australia
March 29	Malaysia
April 12	China
April 19	Bahrain
May 3	South Korea
May 10	Spain
May 24	Monaco
June 7	Canada
June 21	Austria
July 5	Britain
July 19	Germany
July 26	Hungary
August 23	Belgium
September 6	Italy
September 20	Singapore
September 27	Japan
October 11	Russia
October 25	USA
November 1	Mexico

F1's financial crisis revealed

The closing stages of the 2014 season were consumed with talks over F1's financial position, with both Caterham and Marussia dropping off the grid ahead of the Brazilian Grand Prix (the former returned for Abu Dhabi). With the future of both squads still uncertain, and other teams struggling, this will remain a major source of controversy during 2015.

Vettel joins Ferrari

Sebastian Vettel's long-anticipated switch to Ferrari happens this year, with a difficult season expected. Ferrari managed only two podiums last year, and the marque's engine deficit is unlikely to be eradicated. Like his role model Michael Schumacher, Vettel has to approach Ferrari as a long-term plan. In his first season at Ferrari, Schumacher won three races. Vettel might struggle to do the same.

SCHUMACHER AT FERRARI

72 WINS | **5** WORLD CHAMPIONSHIPS

1190 POINTS | **58** POLES

53 FASTEST LAPS

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Jonathan Noble

F1's newshound

F1 was mired in plenty of negativity in 2014, but a few weeks' rest over Christmas have helped clarify that the sport has a very positive future

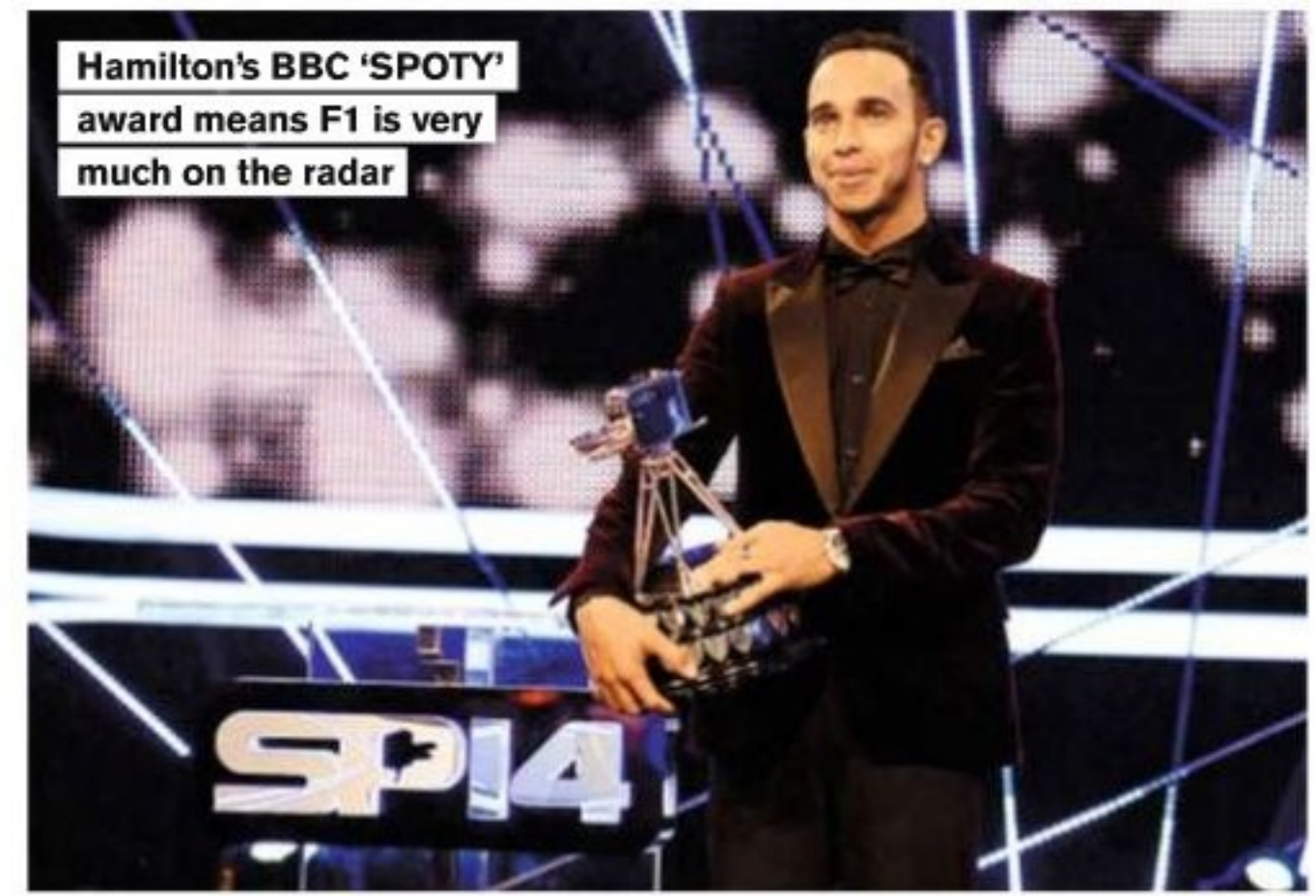
The start of a new year is always a moment of reset for Formula 1. The all-too-brief, post-season run-up to Christmas inevitably lends itself to a bit of reflection on the rights, wrongs and missed opportunities of the year gone by.

But come this week's return to battle stations, and thoughts become focused entirely on what lies ahead. Everyone adopts the mindset of what one high-profile technical figure once said to his workers: whatever it is you do, just do it better.

What the recent downtime since the final race of 2014 in Abu Dhabi has done, though, is allow F1 a rare few weeks of being surrounded by positivity and some upbeat assessments of its current state.

That Lewis Hamilton was able to walk away with the 2014 BBC Sports Personality of the Year Award before Christmas showed that F1 has captured the attention of the wider public. The stirring of emotions caused by Jenson Button having to hold on until the 11th hour at McLaren to find out if he had a future in grand prix racing proved that passion does still run deep among fans.

The good vibes of Hamilton's success and Button's new contract seemed a world away from the difficulties that F1 faced off-track in the closing stages of the campaign as the sport appeared on the surface to be hitting the self-destruct button. The collapse of Marussia and Caterham, arguments over money, a war over engine rules, and a promoter firing off some fairly leftfield sound bites



scratch. But if WEC viewing figures are here [puts hand low down], then F1 is still here [raises hand high up]. Although maybe it [F1] is losing a little bit because the world is changing."

Indeed there is a huge difference between a sport going through some bumpy times amid a changing world and it being in full-blown meltdown. Is everything rosy in F1's garden? Of course it isn't. It could do a lot of things better. It could certainly do a lot more for fans. But to suggest it has everything wrong and is dying is wholly incorrect.

"Hamilton's success and Button's new contract are a world away from the difficulties F1 faced"

about ignoring younger fans, delivered a feeling that F1 was stuck in a spiral of negativity.

When faced with such an onslaught of doom every other week in the paddock, it was hard at times to not believe that F1 was facing a full-blown crisis. And yet, step back from it all for a few weeks, and you realise that it's far from being on the road to ruin.

Sure, some empty grandstands and falling television viewing figures set alarm bells ringing, but figures have to be put into context. F1 is still massively popular, and just because other categories – like the World Endurance Championship – are growing, it doesn't mean that audiences are about to shift their allegiances.

As FIA president Jean Todt made explicitly clear during a chat at the Abu Dhabi GP: "The problem of the F1 audience dropping? It is clear that if you go from free-to-air to pay TV the audience will drop. You don't have to be a genius to understand that. For WEC, we are the promoter, and it is something we are building from

"F1 does not have a bad image," added Todt. "Saying that, it could have a better image. If you have George Lucas or Luc Besson presenting a new movie, and they say my movie is not good, it is not very clever. Maybe his movie is not good, but then he will call his team – say 'guys it is maybe a bit too long, we should look at what to change?' I am completely happy to do that; every morning you wake up, and you think what is the way to do things better?"

F1 remains a truly brilliant sport, and there are a multitude of reasons to be excited about what is coming in 2015. Will the opposition close down on Mercedes? How will the Hamilton/Nico Rosberg battle develop? What can Fernando Alonso and Sebastian Vettel do at their new teams? Can Daniel Ricciardo be even more sensational?

There are signs of F1 getting its house in order off-track, too. The new F1 Promotional Group, a proper social-media plan by Formula One Management, and the good vibes of the winter, all point towards a positive future.

Melbourne cannot come soon enough. ❄️

This year in motorsport

NISSAN BACK IN LMP1

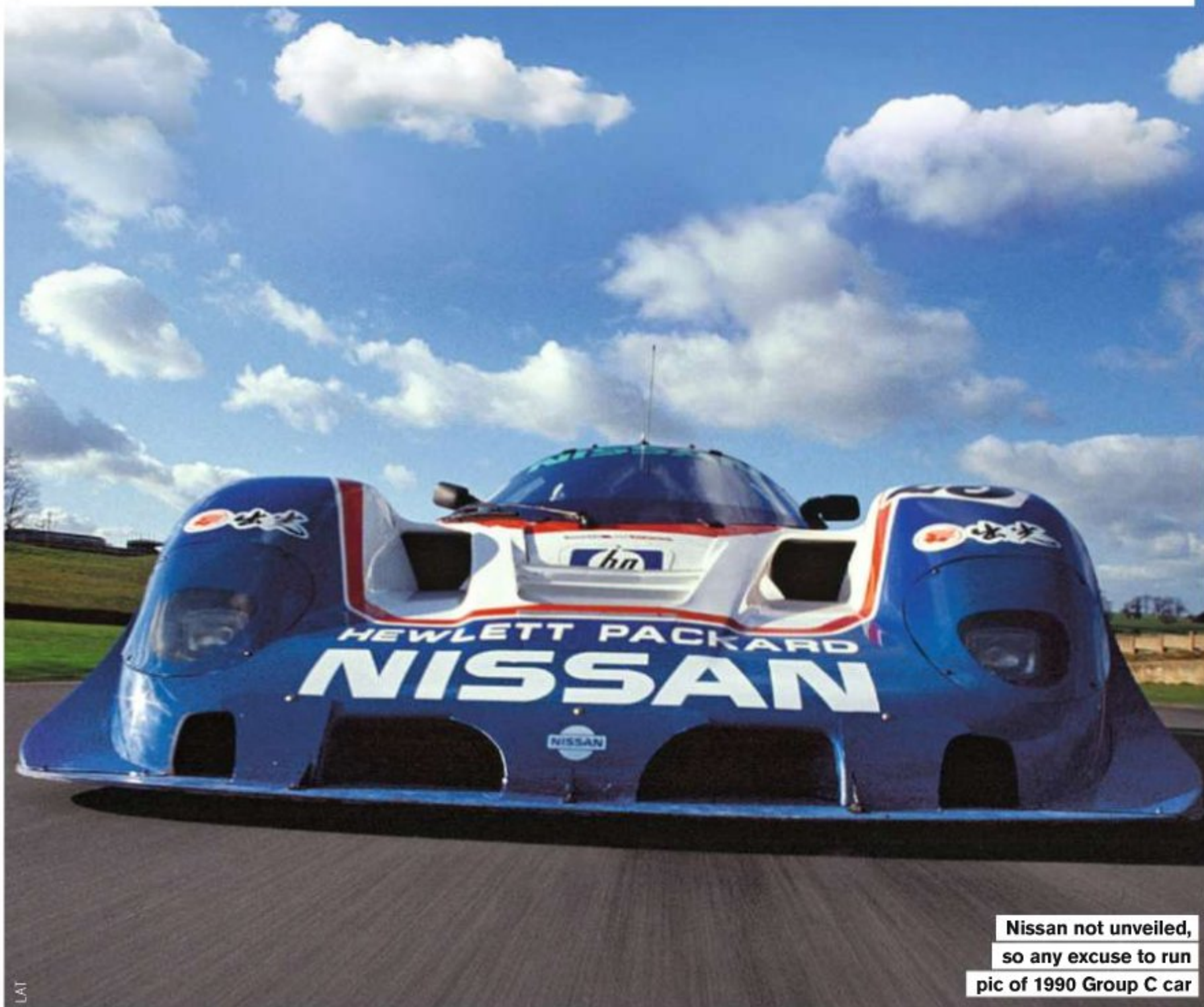
Nissan will take the wraps off its World Endurance Championship LMP1 contender in February.

The launch of the Japanese manufacturer's return to the top of the sportscar racing tree for the first

time since 1999 has yet to be officially announced, but Nissan has leaked details of what will be a high-profile event to the US press. It is set for February 1 and takes place at the Super Bowl National Football

League finale in Phoenix, Arizona.

Nissan is refusing to reveal technical details of the Nissan GT-R NISMO LM or confirm any of the names of its roster of drivers ahead of the event.



Q&A



OLIVER JARVIS

AUDI'S NEW LMP1 FULL-TIMER

What does it mean to get promoted to the full-time WEC line-up at Audi?

Ever since I came to Audi, it was my dream to join the full-time sportscar line-up. Even in my first year in the DTM, when Mike [Rockenfeller] and Alex [Premat] were also doing the Le Mans Series, I was trying to get involved in that programme. I took the chance to race with Kolles at Le Mans in 2010 [in a privateer Audi R10] and that was absolutely the right thing to do.

How do you feel about replacing Tom Kristensen?

To many of us he's just Tom, but my new team-mates have reminded me that I am replacing the most successful sportscar driver ever. Those are certainly big shoes to fill and this is not something I am taking lightly.

Can you continue to race in Super GT with Toyota?

No, as soon as I got the news, I informed SARD that I will not be able to continue with them next year. I am extremely grateful, however, for the opportunity they gave me in 2014.

New aero kits for IndyCar

IndyCar will take on a new look with the much-anticipated arrival of manufacturer-designed aero kits for the Dallara DW12.

The new kits are being introduced primarily to encourage visual diversity between manufacturers Chevrolet and Honda, but the aesthetic update is expected to be accompanied by a significant increase in performance.

Road/street and oval versions of the kits are in development. The previous Dallara kits will be retained for the season opener in Brazil, with the new bodywork scheduled to make its race debut at St Petersburg.



DTM returns to double-headers

The DTM will revert to a double-header format for the new season, with one race to be held on Saturday and one on Sunday of each weekend.

ITR chairman Hans Werner Aufrecht said: "We know many DTM enthusiasts were keen on two races per weekend as every additional race minute promises additional excitement and action."

With the arrival of ART, Mercedes will equal BMW's and Audi's eight-car teams. One seat is also up for grabs at BMW, with Joey Hand moving to the United SportsCar Championship to partner Scott Pruett at Chip Ganassi Racing.

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BTCC: who goes where?

The British Touring Car Championship's driver market is in its biggest state of flux for many years.

Wins record holder Jason Plato is definitely on the move from the Triple Eight-run MG works team, while 2013 champion Andrew Jordan is by no means certain to remain at the family Eurotech squad. Reigning champion Colin Turkington could move too, after WSR lost its sponsorship deal with eBay.

Jordan's plans will be revealed at AUTOSPORT International next week.

BTCC CALENDAR

DATE	LOCATION
April 5	Brands Hatch
April 19	Donington Park
May 10	Thruxton
June 7	Oulton Park
June 28	Croft
August 9	Snetterton
August 23	Knockhill
September 6	Rockingham
September 27	Silverstone
October 11	Brands Hatch



Renault festival back in the UK

The free-ticket World Series by Renault package – headlined by Formula 1 feeder category Formula Renault 3.5 – returns to Britain this year for the first time since 2011.

A deal was struck between Renault and Silverstone owner the BRDC back in

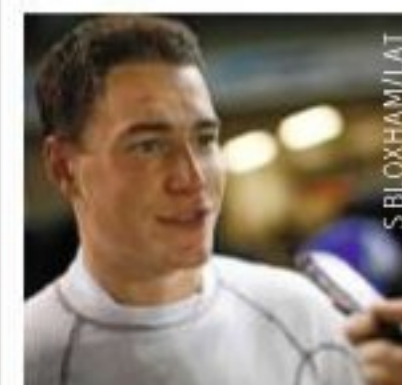
October, and more than 100,000 fans are likely to attend the event on the August Bank Holiday weekend.

Renault Sport CEO Patrice Ratti said: "Silverstone is a significant circuit, and there was a big request from the teams to go back."

DRS for GP2

DRS will be introduced to the GP2 Series this season.

This is what 2014 runner-up Stoffel Vandoorne, who will remain in the category this year, thinks of it:



Is DRS going to make much difference to the racing?

It will definitely make things a bit more interesting.

If it will change much, I don't know, probably not a lot over a qualifying lap, maybe a bit more for the race. I think teams will find something different with it for the races to reoptimise – the aero-to-drag combination is something we'll have to find out.

Is it a good thing to have DRS?

Sometimes we see those crazy races in GP2 when someone's tyres go off and there's a massive queue behind. These races won't exist anymore. When somebody drops off you are just going to be able to get them on the DRS.

Loeb's Monte Carlo return

Sebastien Loeb has never lost the Monte Carlo Rally driving a DS 3 WRC – but that record will come under threat on his World Rally Championship return this month.

The WRC's most successful driver ever will be given a warm welcome when he goes back to his roots in the French Alps. One big question will be how he copes with on-form Sebastien Ogier in a Volkswagen which hasn't been beaten by the DS 3 since Loeb's own Rally Argentina success in 2013.

The even bigger question is whether Monte really is a one-off...



London FE race looking good

Formula E is on course to clear the final hurdle in its attempt to bring motorsport back to London some time in February.

The local council gave its consent to the Formula E Championship finale taking place in Battersea Park in December and now the race, set for June 27, is subject to the normal procedures of planning permission.

That process will include provision for a two-day event, because Formula E has plans to turn one of its three European events into a double-header.

UK INTERNATIONALS IN 2015

- April 2-4** Circuit of Ireland
European Rally Championship
- April 10-12** Silverstone
World Endurance Championship
Formula 3 European Championship
European Le Mans Series
- May 9-10** Brands Hatch
Blancpain Sprint Series
- May 23-24** Lydden
World Rallycross Championship
- May 23-24** Silverstone
Blancpain Endurance Series
- June 6-7** Brands Hatch
Euro NASCAR
- June 6-7** Silverstone
Euroformula Open
International GT Open
- June 27** London
Formula E
- July 3-5** Silverstone
British Grand Prix
GP2 Series
GP3 Series
Porsche Supercup
- August 29-30** Silverstone
Formula Renault 3.5
Formula Renault 2.0 Eurocup
Renault Sport RS 01 Trophy
- November 12-15** Rally GB
World Rally Championship



WTCC's tasty 2015 schedule

Macau may be off the World Touring Car Championship calendar, but the series certainly is not lacking challenging circuits.

Last summer it was announced that a round will be held on the Nurburgring Nordschleife (above) in mid-May, while the series recently added a July round on the historic Vila Real road circuit in Portugal.

Visits to Thailand and Qatar (for the finale) mark firsts for FIA world championship competitions.

NEWBIES TO FIGHT OUT F3

A big new intake of junior drivers will fight out this season's Formula 3 European Championship.

Most of the class of 2014 have

moved on, but Jake Dennis (right) remains and has switched to Prema.

McLaren AUTOSPORT



BRDC Award winner George Russell and star karters Alessio Lorandi and Callum Ilott could take him on if they secure drives, as expected.

BOTTAS

F1'S REAL

FLYING FINN

To many Formula 1 fans Kimi Raikkonen remains the sport's pre-eminent 'flying Finn', but for how long? **BEN ANDERSON** argues that Valtteri Bottas is about to knock Kimi off his perch

WILLIAMS
MARTINI
RACING

perian

stad

For anyone following Formula 1 over the past decade, Kimi Raikkonen has been the biggest game in town as far as Finnish drivers are concerned. Mika Hakkinen passed the baton on, and Heikki Kovalainen tried his best to snatch it away, but – almost in spite of himself – Raikkonen has remained etched in the consciousness of single-seater fandom as *the* Finnish superstar.

His particular brand of searing speed, monosyllabic speech and wild off-track partying has imbued him with a unique anti-hero status in F1 folklore. In this age of clean-cut corporate sensitivities, it's probably no surprise that anyone even remotely professing to be the natural heir to James Hunt should prove so enduringly popular with F1 fans. But that aura requires sustenance; it can only remain alive for so long in the absence of on-track derring-do.

Unfortunately for Raikkonen, that was in short supply last year – he endured his worst-ever campaign as an F1 driver, just as a recently arrived, fresh-faced, phenomenally fast Finn enjoyed a breakout season of his own. While Raikkonen spent 2014 wrestling his recalcitrant Ferrari (and being beaten by Fernando Alonso), Valtteri Bottas confidently rode the crest of a wave that carried the proud Williams team back towards the front of the F1 grid. Raikkonen failed to achieve a podium finish for the first time since his debut season in 2001, while Bottas bagged six of them; Raikkonen recorded his worst-ever finish (12th) in the world championship, while Bottas finished fourth – ahead of world champions Sebastian Vettel, Alonso, Jenson Button and (of course) Raikkonen.

Now, it's fair to say Williams comfortably produced a more competitive car than Ferrari last season (a triumph in itself, even with a Mercedes

**Much-improved 2014
Williams had great
straightline speed**

engine in the back of the FW36), but Alonso beat Felipe Massa in the drivers' championship and finished only 25 points behind Bottas. Raikkonen was nowhere to be seen...

If Bottas follows up with another strong year in 2015 – and Raikkonen endures another one as poor as the last – F1 may well see a changing of the guard as far as flying Finns are concerned. But there's some way to go before we get there. Raikkonen is still enormously popular in Finland – both on and off the track – whereas Bottas still needs to win races to avoid being cast as the 'new Kovalainen' (who won a single grand prix for McLaren before sliding into career obscurity at the back of the grid). Raikkonen may well be underperforming presently, but his 2007 world championship success and 20 GP ▶



Bottas needs to win races to avoid being a 'new Kovalainen'

**How long until Bottas
overhauls Raikkonen as
F1's pre-eminent Finn?**





THOMPSON/GETTY



Neither Ferrari could pass Bottas during Bahrain GP

WHAT WILLIAMS THINKS OF BOTTAS



COATES/LAT

Claire Williams

Deputy team principal

Everyone's seen what a successful year Valtteri has had. He's one of the coolest, calmest drivers I've ever had the pleasure of working with – and he's super quick. I'm sure people are looking at him – and why wouldn't they? He's one of the brightest stars in the paddock. But Valtteri started his career at Williams, and if you talk to him you realise he's committed to us, and we're committed with him on the future path of this team. For me, that loyalty is important, and I think Valtteri feels that too. The name of Ferrari, for example, may be tempting, but Valtteri fits in well here, and I think for someone like Valtteri that 'fit' is really important. He knows the plans we have for future success. Why would he go to another team?

WHAT WILLIAMS THINKS OF BOTTAS



COATES/LAT

Pat Symonds

Chief technical officer

I'm really impressed with Valtteri. He's very bright, very quick, he doesn't make many mistakes – and when he does he learns from them. He's got a great personality and is a real team player. I've worked with a few world champions in their early days and I have no doubt whatsoever he can be one. It's not about being quick – that's almost the given. Plenty of people are quick who are never going to win a world championship. It's about intelligence; it's the application, the thinking, the hard work, the attention to detail.

Bottas claimed six podium finishes in 2014



► wins buy him some time – with his Ferrari team and the public.

Beyond simply wishing Bottas well for doing a good job and having a good car underneath him, Raikkonen is typically dismissive of the subject of their relative stature in Finnish motorsport hierarchy. “I don’t really care what the Finns think about certain people, or me; I’m not here because of them,” Raikkonen says. “I’m here because I want to do well. It’s good for him to have a good car underneath him. I think the whole team has done a good job this year. It takes nothing away from me so I’m happy for him.”

Bottas is generally less tactiturn than Raikkonen, although he is unsurprisingly measured when asked whether he considers himself F1’s new ‘flying Finn’.

“Some people have spoken about that and I’ve heard some things, but I haven’t really thought about it and I don’t know if there is anything in that,” he tells AUTOSPORT. “I think there is still a lot of support for Kimi, because he won the title

WHAT WILLIAMS THINKS OF BOTTAS



Jonathan Eddolls
Race engineer

The good thing with Valtteri is that he’s very clever – in the car he’s a driver who’s got quite a lot of spare mental capacity. When he’s racing you can hear it in his voice that he’s not shouting or screaming, it’s kind of flat-line and you can just tell he’s got so much capacity, which makes him so much easier to work with. He also trusts his engineers, so if we come up with an idea – ‘it may seem a bit out there but this is the reason behind it’ – he’ll never question it, whereas some drivers maybe question some things that you do just because they can. One of the big things that changed for 2014 is the quality of our car – in 2013 we could see the qualities in his driving but unfortunately the car wasn’t to a level.

Team prizes Bottas’s adaptability behind the wheel



One of the key differences between the two Finns appears to be their level of adaptability

and – because he's a bit different than most of the drivers – a lot of people like his attitude.

“He is so relaxed, and his lifestyle is a bit different to some of the others. Many Finns think he is really cool and they support him. It's not easy to become the most-supported Finn at the moment, but Kimi isn't going to continue that many years [more], so let's see when the first wins come and maybe that will change.”

For its part, Ferrari has backed its own Finn to turn his sinking ship around, arguing that it's down to the Scuderia's technical team to design

a car that can free Raikkonen from the understeer hell he's found himself trapped in since V6 turbo hybrid engines replaced normally aspirated V8s, front wings were made smaller, blown diffusers were outlawed, and Pirelli made its tyres much harder. If it can successfully square this circle in 2015 then maybe we'll see the Raikkonen of old. But this still may not be enough to derail the Bottas juggernaut, which is gaining fresh momentum by the race.

Williams believes it has ‘the real deal’ on its hands – a fast, intelligent and adaptable operator who only needs more experience to become a driver capable of winning multiple world championships. It's simply a question of time.

One of the key discernible differences between the two Finns as drivers appears to be their level of adaptability behind the wheel. Raikkonen says he has always driven the same way and refuses to change in the face of adversity, believing he will be most competitive when the car is moulded to suit his high-momentum style. Bottas is more circumspect, saying he will pick and choose his poison depending on the circumstances. This means he can avoid the Jim Clark trap of unconsciously driving around problems without recognising them.

“I think I can adapt to new things quite quickly; even when I tried an F1 car the first time it was only a few laps and I was really comfortable,” Bottas says. “I have to say in the past sometimes that was a problem for me, a negative, because I would jump in the car and the team would want some feedback from me, and many times I would say it feels fine but, because I was just adapting to whatever the set-up was, I couldn't quite understand how to unlock more from the car.

“Then the team would try something and I would go two tenths quicker. Then I thought, ‘Ahh shit!’ In the early junior formula I was just

adapting to it automatically. I've learned a lot since then and I can pick it up better. I still feel like I can adapt to a lot of different set-ups and driving styles, but at the same time I've improved to really think about and feel how the car should be improved, so I can get more out of it.”

This combination of lightning speed allied to thoughtful intellect has seriously impressed Williams – and no doubt other teams on the grid are looking at Bottas as a future star. His contract with Williams runs out at the end of this season, at the same time as Raikkonen's own deal with Ferrari expires. Perhaps in time there may be a physical, as well as psychological changing of the Finnish guard. It's probably inevitable at some stage, given Raikkonen is now 35 and Bottas 10 years his junior. Bottas won't be drawn. For now, he's simply happy that his stock is steadily growing in his home country.

“Every time I go there, more and more people recognise me and a lot of them come to me to say, ‘Really well done’ – they're happy there's a new Finn getting some results,” he adds. “They're happy they can be quite confident in the future that they have something to cheer for, and that's good. For me it's really nice to continue the Finnish tradition because for a long time there has been a Finn in F1.

“Because it's a motorsport country, everybody loves F1 and rallying. So for the Finns it is really important that Finns kick ass in F1. The success for them is very important, so they are not that interested if you are behind. But if you are fighting at the front they really get behind you.”

Kimi may not be ousted from his seat just yet, but the name ‘Valtteri’ is already looming large in his mirrors. It surely won't be long before the ‘Iceman’ has to make way for ‘Bottas’ on the Finnish flags that fly in Formula 1 grandstands around the world. ❧



THOMPSON/GETTY

Bottas served notice of FW36's potential with fifth in Australia



DUNBAR/LAT

IN CONVERSATION WITH...

VALTTERI BOTTAS

Ben Anderson: Looking back on your second year in Formula 1, does it feel like the season you arrived as an F1 driver and showed the world what you are capable of?

Valtteri Bottas: I think so. In 2013 I was a bit hidden, because we were at the back of the field. Even if I did some good races no one knew about it! I was lucky to get a couple of nice results – like Canada in qualifying in tricky conditions, and the points in Austin, so those couple of races saved my season. Being in a good car has been really important for me. It's been great for the team, a good comeback. I do feel like this was the first proper season in F1 – where people can tell a bit more what I can do and what I'm capable of.

BA: Are you the same driver you were in 2013, while the car has changed around you, or have you changed your technique behind the wheel?

VB: I am a better driver than in '13 for sure. I think I've been improving all the time and even in 2013 I was getting better, but I can't point at any one thing I've been doing differently – I've just been learning more and more. I've just been doing what I always do, race by race trying to improve and always keeping at my best and trying to work

hard with the team and improve things – especially myself. You need to be analysing yourself. I'm quite self-critical; that's what I've always done and it's brought me this far, so I see no point in changing that attitude.

BA: What are your biggest strengths as a driver?

VB: I think I was lucky to get some kind of talent, so maybe that helps! I think my strengths are how much I want to win, how much I'm ready to go for it, ready to work to win and be a world champion. That for me, at the moment, is everything in my life.

BA: The team, particularly Rob Smedley, thinks one of your biggest assets is that you're humble and willing to take responsibility when things go wrong. How important have your family background and upbringing been to that attitude?

VB: I think very. In the Formula 1 world, for anyone – especially drivers – it's very easy to get carried away with things and easy to have distractions, then you have less time to focus on the thing that matters and that's the racing. My parents always told me, from a young age, to just be myself and everything will be fine. I don't

need to play any superstar role; I just do the job, work with the team, simple. Alex Wurz told me some good advice. He said: "You're only here to race the car, everything else is..."

BA: Superfluous?

VB: Exactly. Remember that you're here to drive the car as fast as you can and that's the main thing. Once you do that everything will be fine.

BA: Rob also says the only thing lacking for you is experience. Do you agree?

VB: Yeah for sure. Next year is going to be my third season in Formula 1. The first two years I had were very different, because the first was really tough with not so good a car, and then we made a big jump, got good results and we are still growing as a team. I think I've had a really good two years for learning a lot of stuff, and in the third year I think I can make another step forward with everything I do. I know myself, there is still room for improvement here and there, I just need to keep working.

BA: I want to ask you about Mika Hakkinen. I know he's been involved in your career, but how

"You're here to drive the car as fast as you can.

Once you do that everything will be fine"



Bottas was "a bit hidden" in 2013 with woeful FW35



Mika Hakkinen acts as a mentor for Bottas



STALEY/LAT

WHAT WILLIAMS THINKS OF BOTTAS



COATES/LAT

Rob Smedley
Head of vehicle performance

I think Silverstone was a standout performance. We as a team had done a pretty dire job in the wet qualifying, and both drivers were starting off on the back foot – Felipe paid the consequences of that heavily, by being in the wrong place and having an accident at the start of the race with Kimi. Valtteri just got his head down and passed so many cars. He was just chipping away and passing cars and finished on the podium from basically 14th. The way he held Lewis off in the next race in Germany [to finish second] was really, really good team work – I was really impressed with it. We'd talked about it beforehand – that Lewis would be a threat; that he'd come through the field very quickly [after brake failure in qualifying] and we'd just use the engine in the cleverest possible way to hold him off. Valtteri did that, and he did it really, really well.

WHAT WILLIAMS THINKS OF BOTTAS



STALEY/LAT

Felipe Massa
Race driver

Valtteri has a big talent. He is a driver to win races, fight for the championship, and win championships. He has that talent. I think he grew a lot with me this year – to understand so many things and learn. I helped him a lot by not being against him. We were pretty open and he's shown how much he's grown. It's nice to see a young driver like him is doing a great job. It's nice to see he wants to be in front of me but respects me, and it's the same for me. We work with a lot of respect and that's positive. He's part of the evolution of this team. Our driving styles are not so different and we use a similar set-up for many races. That really helps.

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► influential has he been in terms of your progression into and through Formula 1? What advice and help has he given you?

VB: He's been really supportive. After most races – or before – we speak on the phone and just chat about things. If we had problems, like with the start, he's always really interested in how the car's behaving and if we have some issues, and he's interested in how we will fix those. I think he was the king of analysing, because when I speak with him he always goes into these really fine details that he doesn't need to. I just tell him the main things and sometimes he really wants to know all the details. Sometimes this year, but especially last year, we had some problems on the starts with the behaviour of the clutch. He wanted to know how we were going to proceed, how the clutch was biting, and why it wasn't the same as the last race – what we did differently.

BA: He must be a really good guy to have in your corner with his experience and success...

VB: He is, yeah. His general advice on life and how to approach things is very similar to me. He always says 'just be yourself and trust your talent' and that's the main thing. If you do a mistake, just accept it and analyse what you can do better and then forget it and go forward. In the end it's quite a simple style.

BA: How important is having a stable partner [Bottas is in a relationship with professional Finnish swimmer Emilia Pikkarainen] in helping you perform at your best?

VB: Yeah, I think if you want to be successful in any sport it's important to have a stable personal



life. If everything is a big mess outside race weekends, and you're getting texts from that friend here, that friend there, it's really easy to get carried away. I really think it's important to have a stable lifestyle. For me, the most important people are my girlfriend, family and my friends in Finland. We have a group of five of us who have been friends since we were six years old, and those are the real friends I still have now – the only ones.

BA: They help keep your feet on the ground?

VB: Exactly. They know the real me. If they see I do something which is not me then they will say: "What's that?" so that's good!

BA: Emilia is also a professional sportsperson so I guess she understands the dedication required...

VB: I think a sportsperson understands a sportsperson much better because if she was at home all the time waiting for me because I travel a lot, it would be quite tricky. But she has her

own thing with the swimming. She's really aiming for the top and she's also travelling and has her own focus as well. I think she really understands what it takes to get to the top – you need to sacrifice something, some of your personal life. So I think it really helps.

BA: All drivers talk about the importance of self-belief. Where does yours come from?

VB: For me it's not that big a deal. It comes from what you have done for it. For example, for the race, if you know you've done everything you can to prepare – nutrition, training, the meetings – that's all you can do. I've come this far and I know I can still be a lot better so I'm really confident. I believe in myself. Simple.

BA: Do you consider yourself to be a hard-working driver?

VB: I don't know about other drivers, but I look at all the things that really matter. I would say I always work quite hard, even off-track, and in the race weekends no one knows what I think in my head but I always think about a lot of stuff in the evenings and how to go quicker. I'm interested in details and the things I can affect. There's a lot to take in so you need to limit some things and focus on the things that matter. I've always believed that if you do something, you'd better do it properly. One hundred per cent.

BA: Obviously you're aiming for the top. Do you see Williams as a long-term project? Do you believe it will take you to those wins and titles?

VB: I really hope so. I have to say I am really confident we can make a step forward this year,

“I've always believed if you do something, you'd better do it properly. One hundred per cent”



and if we can make another good step and challenge for the wins, then I am really hopeful for the years after that it can be possible to fight for the title. I think this year is not going to be easy, but never say never. The plan for this year is to make a step forward, and then it's time for maximum attack.

BA: Which is a very Finnish mantra.

VB: Yes! You never know what's going to happen but I am really happy at Williams, and I really think we can do really well.

BA: The team seems to think you fit very well...

VB: Yeah, for me it's like a family.

BA: And that's quite important to you?

VB: Yeah it is. I got the opportunity from Williams to get to Formula 1. I grew up as a test driver – working at the factory in different departments – and now I am racing the car and doing really well, so it's really cool. I don't see any reason for that to finish. ☺

Audi
e-tron quat



KRISTENSEN'S GREATEST RACES

The curtain fell on Tom Kristensen's incredible career at the end of last season.

The great Dane talks to **GARY WATKINS** about his finest performances



LE MANS 24 HOURS

Porsche WSC95 (Joest) – 1st (with Michele Alboreto & Stefan Johansson)

The passion that Tom Kristensen took to the Le Mans 24 Hours each year was evident almost from the very beginning of his career. He'd only managed 17 laps in qualifying ahead of his debut victory in the great race but, after his first stint aboard Joest's Porsche WSC95, his enthusiasm for the race and the eight-plus miles of the Circuit de la Sarthe was plain to see.

"I've seen an interview of myself after I got out of the car for the first time in the race," he recalls. "I sound ridiculous, like Donald Duck, so I was obviously impressed with driving at Le Mans in the night with all the traffic."

"Le Mans was something I always wanted to do one day, but when I got there it wasn't that I thought, 'This is it.' But during the race, I felt immediately that this was the ultimate form of racing."

Kristensen's quadruple stint during the night, which yielded a sequence of fastest laps and the lap record, is legend. He was already loosening his belts on the in-lap after three stints when the radio call came from team boss Ralf Juttner asking if a fourth was possible.

"I was ready for a fourth stint mentally, but at the same time those four stints wore me out," he recalls. "I was in a kind of trance of positivity, but absolutely knackered. That car had no power steering, an H-pattern gearbox with synchromesh and it searched around on the straights. I had bloody finger nails like a carpenter after the race because I'd been gripping the steering wheel so hard."

Kristensen's favourite memory from the first of his nine Le Mans victories is an off-beat one. It concerns his seat fitting at Joest's factory on the Friday prior to Le Mans



Celebrating Le Mans win #1 with Stefan Johansson and Michele Alboreto (r)

week — his signing really was that late!

"They had a spare monocoque there, and I jumped in and sat in Michele's seat from the year before," he recalls. "I said the seat was fine, but trying to look professional, I said, 'Oh yes, but maybe you could bring the brake pedal back a little bit.' The mechanic, Jurgen Hordt, who hadn't

left for Le Mans at that point, leaned in and said quietly in German, 'The fastest will decide.'

"After the race when we were celebrating with weisse beer and German sausages at a barbeque, I found Jurgen, pressed my finger in his back and said in his ear, 'Next year we will have the brake pedal a little bit further back.'"



Beating McNish at Sebring brought them together

MARCH 2005

SEBRING 12 HOURS

Audi R8 (Champion) – 1st (with JJ Lehto & Marco Werner)

Sebring in 2005 is rightly regarded as one of the greatest races in the 60-plus years of the 12 Hours. But it deserves its place in sportscar folklore for a second reason: it was at this event that the seeds were sown of the successful partnership between Kristensen and Allan McNish.

Kristensen's late father, Carl-Erik, and McNish's dad, Bert, have been credited with coming up with the idea, and it made sense to the top two sportscar drivers of their generation who'd just been slugging it out over the bumps of the Sebring International Raceway in their pair of Champion Racing Audi R8s. Kristensen and McNish had just gone head to head over the final stints of the race, the margin between them just over six seconds at the flag.

Kristensen remembers whichever of the pair was on new tyres "absolutely flying in the cool conditions". Kristensen, by rights, should have lost the lead when he took on a new set of Michelins at the car's penultimate pitstop, but the decision to short-fuel the car and a minor delay for McNish allowed TK to get out in front and exploit the advantage of new rubber. McNish later came back at the leader on fresh tyres, but ultimately fell short.

"We decided it was too hard on our fathers to watch that kind of race," says Kristensen, "so we decided that we'd better share a car in the future. That's how it started."

MAY 2000

BTCC – OULTON PARK

Honda Accord (WSR) – 3rd & 1st

The first of Kristensen's three victories with West Surrey Racing and Honda in his one-season foray in the British Touring Car Championship was a significant one.

"Your breakthrough win in any category or series is always so important, and that one was damn important," explains the Dane. "It was starting to get a little bit frustrating. We'd been losing points: I'd been knocked off several times – I remember at Donington Park Mr Plato didn't give me permission to win – and we'd had some technical problems."

Kristensen led the feature race from pole at Oulton and emerged from the mandatory pitstops with the lead, which he extended to 10s before the



Maiden BTCC victory came at Oulton Park

finish. It wasn't as simple as it looked though. His Accord had a major oil leak over the final laps.

"It was important for me to win in the BTCC because I've always liked to prove my versatility," he continues. "Winning the final two races of the BTCC Super Touring era at Silverstone was a good way to finish the season, but I would like to have won more."



Hockenheim finale brought victory in German F3 Ralt

OCTOBER 1991

GERMAN FORMULA 3 CHAMPIONSHIP – HOCKENHEIM

Ralt-Volkswagen RT35 (BSR) – 1st

"Getting that drive with Bertram Schafer Racing and Volkswagen for 1991 was my big chance: I knew I had to make the most of it and win the championship, so I was very conservative and always looking for points," reveals Kristensen, who had triumphed in just two races prior to the finale. "I won the title at the penultimate race, so I could drive at the Hockenheim finale without any pressure."

"I really wanted to prove that I was a worthy champion by winning that one," says a driver who was contesting his first full season in single-seaters. "I felt liberated and I was able to beat the lap times from the year before when Mika Hakkinen came over from British F3 with West Surrey."



The amazing 2008 Le Mans win came in recovery season

JUNE 2008

LE MANS 24 HOURS

Audi R10 TDI - 1st (with Allan McNish & Rinaldo Capello)

Audi's triumph over Peugeot in arguably the greatest Le Mans 24 Hours of all time is quite rightly up there in Kristensen's list. But his reason isn't just that he, Allan McNish and Rinaldo Capello drove the perfect race. He calls it "the start of my second career".

The previous year's Le Mans had been the

Dane's first race back since his giant shunt in the DTM at Hockenheim. He admits to not being at his best that year, and reveals today that everything wasn't back to normal 12 months later.

"You shouldn't underestimate the effects of such a big accident," he says. "It took me a long time to be back to 100 per cent, so I was worried about any after-effects. The only way I could do it was to avoid stress. I wasn't comfortable that I could end up in big pain if I couldn't control my situation."

That's an amazing admission of a man who, along with his team-mates, drove flat-out throughout an

event in which many thought they had no chance. Peugeot's status as pre-race favourite only motivated him, says Kristensen.

"People were telling us we couldn't win that race, but that became part of our will to win," he continues. "We had the perfect race, and I'm not just talking about Allan, Dindo and myself. The same goes for our engineer Howden [Haynes], Leena [Gade, assistant engineer] and all the mechanics at Joest.

"Dindo summed it up best: 'It was the race where the men beat the machines.'"

BLOXHAM/LAT



Fight from the back brought important F3 victory at Fuji

NOVEMBER 1993

INTERNATIONAL FORMULA 3 LEAGUE - FUJI

TOM'S-Toyota 033F - 1st

Already a double winner in F3 with titles in Germany and then Japan, Kristensen saved his best to last. The end-of-season Fuji invitational event following the Macau GP was, he says, "almost certainly my best F3 race".

It was a race that Kristensen and TOM'S wanted to win. The team with which he had followed up on his 1991 German title in Japan that season was based a few miles down the road from the Fuji Speedway. The team was serious about winning an event that ran from 1990-93 and had introduced a series of updates to test ahead of its '94 campaign. They actually didn't work, not that Kristensen got to test their effectiveness in the race.

"A rear wheelbearing failed in 100R [a fast, looping right-hander] and it sort of locked the rear wheel," he recalls. "I went straight off and barrel-rolled. The team

managed to rebuild the car overnight around the same monocoque, but with the old aerodynamics."

Kristensen made it up to fifth in his heat from 15th on the grid, which meant he lined up ninth for the final. A storming first lap brought the TOM'S up to third, which became second a lap later. He then became embroiled in a battle with Roberto Colciago's RC Motorsport Dallara.

"Those races were real slipstreamers," he recalls. "We ran little downforce, which made the cars extremely skittish, and you had to duck your head down into the cockpit on the long start-finish straight."

Kristensen took the lead on lap five and swapped places with his Italian rival three times more before getting back to the front at the start of lap 17.

"I got the impression that he could pass me more easily than I could pass him," recalls Kristensen. "There was a yellow flag at Turn 1, which cleared for the penultimate lap, so I thought I was in big trouble. I really had to close the door on him that lap and I just managed to hang on."

"That was a thrilling weekend: we managed to turn a low into one of the big highs in my career."

JUNE 2013

LE MANS 24 HOURS

Audi R18 e-tron quattro - 1st (with Allan McNish & Loic Duval)

Audi's hopes were pinned on the shoulders of the winning line-up for nearly three quarters of the duration of an emotional race in which Aston Martin driver Allan Simonsen had lost his life. It was also the first Le Mans for Kristensen since the death of his father, Carl-Erik, and a significant win after the disappointments of 2011 and '12 for him and McNish.

"The pressure throughout that race was intense," Kristensen recalls. "It was a different race after Allan's death and a difficult race with the conditions. There was a lot of what I would call 'local' rain and much of the time we were on slicks. That made it so mentally tough."



Ninth Le Mans win was an emotional one for Kristensen

MARCH 1999

SEBRING 12 HOURS

BMW V12 LMR (Schnitzer) – 1st (with JJ Lehto & Jorg Muller)

"This is where the Sebring story started for me; it laid the foundations of my later success," says a driver who would go on to win the Florida enduro a record-breaking six times. "It was an important victory, along with our performance at Le Mans, because it resulted in the call from Dr [Wolfgang] Ullrich to join Audi for the following year."

Perhaps the most amazing thing about Kristensen's victory in the Williams-built and Schnitzer-run BMW V12 LMR together with JJ Lehto and Jorg Muller was that the cars weren't even going to Sebring the week before the race. Schnitzer had been testing at Homestead, down the road in Florida, and looked unlikely to take part.

"We finished the test on Friday and I went to bed believing that I'd be flying home to Europe the following day," recalls Kristensen. "It all changed overnight, and John Russell [who ran the project for Williams] was instrumental in making BMW change its mind."

Kristensen had to repel the advances of the Dyson



Sebring win laid the foundations for a call from Audi

Racing Riley & Scott-Ford MkIII in the closing stages, finishing just nine seconds up at the chequered flag.

"The BMW was a low-aero car designed for Le Mans and the Riley & Scott had a lot more downforce and was flying in the night," he says. "The lower temperatures meant that our tyres had fallen outside of their optimum operating window and there was a lot of sand on the track through Turns 10 and 11 all the way to Turn 13. It was a very tricky race at the end."

AUGUST 1985

NORDIC-SCANDINAVIAN KARTING CHAMPIONSHIP – BOHUS

Kali-Kart-Parilla Formula A - 1st

"This became a very important victory in my mind over the following years," says Kristensen of his triumph over future two-time world champion Mika Hakkinen in Sweden in the summer of 1985. "He quickly went on to become a big star and was just about to enter Formula 1 when I got my first professional drive in F3 the same season in '91.

"It took me much longer than him to move up into single-seaters without the kind of support he had in Finland, but that race meant that I knew I had something to offer. I thought that if Mika can do it, so can I."

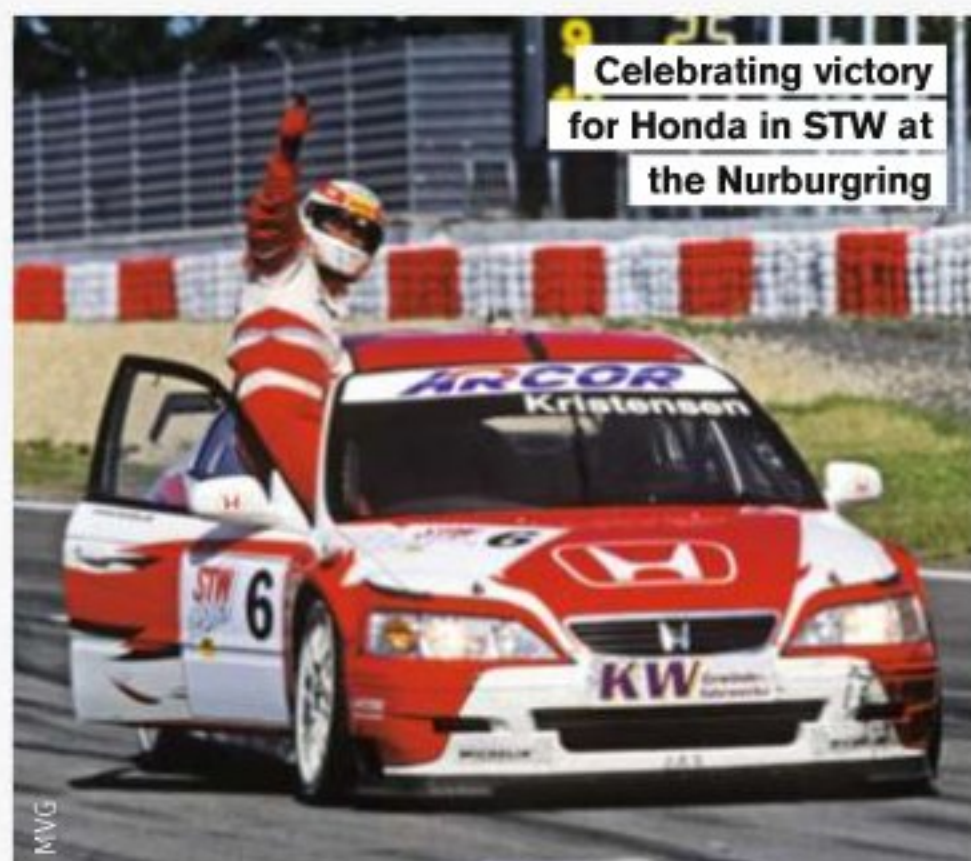
The end-of-season event was by all accounts a humdinger. Even Kristensen doesn't remember how many times he and Hakkinen swapped the lead.

"I'm told that it was eight times, but I can't be sure," he says. "All I know is that we were racing so hard that we didn't even notice the chequered flag."



TK atop the podium after beating Mika Hakkinen (left)

26



Celebrating victory for Honda in STW at the Nurburgring

AUGUST 1999

GERMAN STW – NURBURGRING

Honda Accord (JAS) – 16th & 1st

This is the race Kristensen picks out as the highlight of his Super Touring career with Honda that straddled the German STW series and the British Touring Car Championship. A first-corner accident, after he had qualified second, left him beached in the gravel, out of the race and down in 16th on the grid for race two.

"I was really angry about that, but I had two more fresh tyres than everyone else because I hadn't done the first race," recalls Kristensen. "That anger made me really determined and I came from the back to win. I went completely mad and was really on it all the way."

MARCH 2001

SEBRING 12 HOURS

Audi R8 – 2nd (with Emanuele Pirro and Frank Biela)

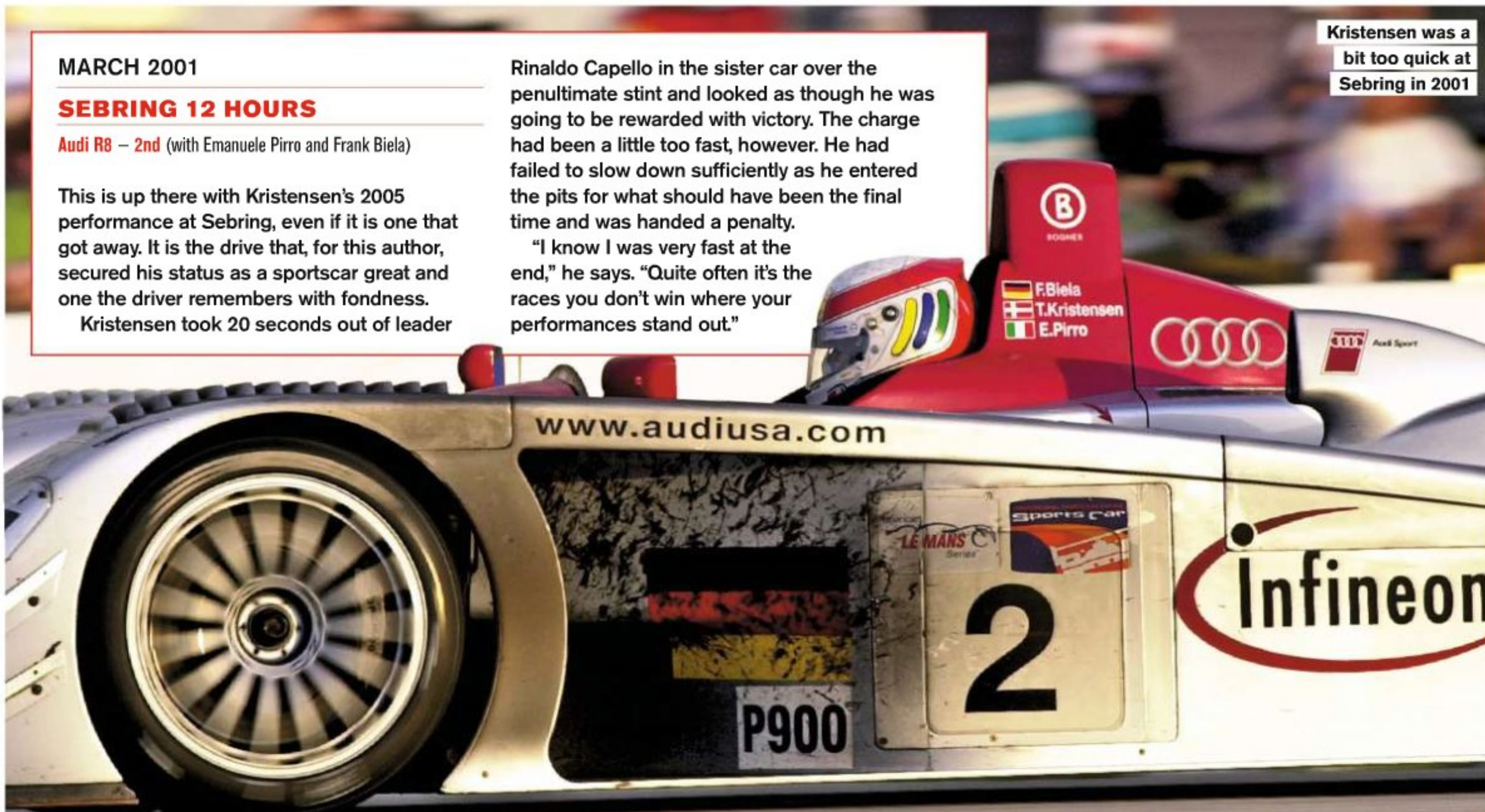
This is up there with Kristensen's 2005 performance at Sebring, even if it is one that got away. It is the drive that, for this author, secured his status as a sportscar great and one the driver remembers with fondness.

Kristensen took 20 seconds out of leader

Rinaldo Capello in the sister car over the penultimate stint and looked as though he was going to be rewarded with victory. The charge had been a little too fast, however. He had failed to slow down sufficiently as he entered the pits for what should have been the final time and was handed a penalty.

"I know I was very fast at the end," he says. "Quite often it's the races you don't win where your performances stand out."

Kristensen was a bit too quick at Sebring in 2001



DOLE/LAT

JUNE 2003

LE MANS 24 HOURS

Bentley Speed 8 – 1st (with Rinaldo Capello and Guy Smith)

Kristensen picks his Le Mans victory with Bentley in 2003 as a highlight of his career for nothing if not for historical reasons, but he also believes it was a significant race in his development.

"I feel proud and honoured to have won Le Mans with an historic manufacturer like Bentley," he says.

Kristensen also believes this race marked a subtle change in his approach to Le Mans.

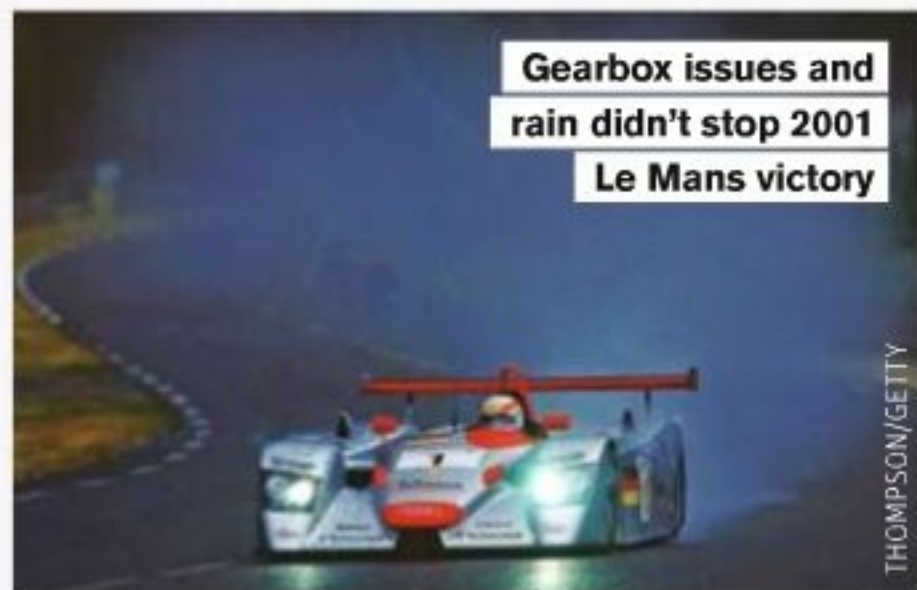
"I realised the importance of working with my team-mates," he explains. "It took some time for the team

as a whole to gel, and I think I was at the right stage of my career in terms of my age to help make that happen."

That's Kristensen's way of explaining the crucial role he played in bringing the disparate elements of a team made up of Racing Technology Norfolk, Richard Lloyd's Apex Motorsport team and Joest Racing together into a squad capable of winning the 24 Hours.

There's also the small matter of Kristensen's pace throughout the event.

"We were fast that year; I remember I was flying at the Test Day and I put it on pole, which gave me tremendous satisfaction," he recalls. "We had a lot of bouncing on the straight at the beginning [caused by yield in the rear torsion-bar suspension], but once it settled down there was no way we were going to lose that race."



Gearbox issues and rain didn't stop 2001 Le Mans victory

THOMPSON/GETTY

JUNE 2001

LE MANS 24 HOURS

Audi R8 – 1st (with Emanuele Pirro and Frank Biela)

The race that stands out for Kristensen from his hat-trick of victories at Le Mans in 2000-02 was the '01 event held in wet conditions. The win was made all the more poignant because it came less than two months after the death of Michele Alboreto in an accident during testing at the wheel of an Audi R8.

"I'm most proud of that one because we had something like 19 hours of rain," he explains. "We were fast but we knew we potentially had an issue with the gearbox; Frank felt something might be wrong as we headed into the night.

"The stint I remember most came early on Sunday morning. I was put onto intermediates and endured the most frightening 20 minutes of my life. It was 20 minutes of near misses because I couldn't get any heat into the tyres.

"I complained to our engineer, Jo Hausner, but he remained very calm and told me to stay out. It was the right decision and by the time of the next pitstop we had extended our lead, but at the time I felt that it was too much weight for my shoulders to bear."

The gearbox issues did finally develop to the stage where a complete rear-end replacement was required, but Kristensen and his team-mates came home a lap ahead of their sister car.



Brands win went awry in 2006

WOOD/LAT

JULY 2006

DTM – BRANDS HATCH

Audi A4 DTM (Abt) – retired

"I choose this one because it was a win that got away, which could have made the difference in the championship that season." That's how Kristensen sums up the events of round four of the DTM at Brands in 2006.

Kristensen was fastest during pre-event testing and ended up claiming pole by 0.25s – over the 1.2 miles of the Brands Hatch Indy Circuit!

"I think it was pretty much just under a tenth in each of the three sectors," recalls Kristensen. "I really found a rhythm that weekend. I was leading and easing away when the front suspension disintegrated.

"If I'd won that race I'd have left Brands with a decent lead in the points. It would have given me real momentum and, I don't want to do Bernd Schneider [the eventual champion] a disservice, but I think I could have won the title or at least taken it to the final race without that.

"I'd put that disappointment up there with losing Le Mans from the lead in both 1999 and '07. It was still a special race for me; probably my best in the DTM."



ROSE/GETTY

TK brought Bentley team together for historic Le Mans win

Celebrating success,
Solberg-style, after
another WRX win



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LET ME ENTERTAIN YOU

It's an offer from Petter Solberg that simply can't be refused at AUTOSPORT International next week. **DAVID EVANS** talks to the Norwegian ace about what he's got up his sleeve

TICKET HOTLINE 0844 581 1420 OR AUTOSPORTINTERNATIONAL.COM

Hollywood and Birmingham. Hmm... not exactly a city-twinning match made in heaven. Hollywood in Birmingham. Ah, that we can do. So we have.

After a brief appearance at AUTOSPORT International last year, Petter Solberg left wanting more. Twelve months ago, he went and watched Live Action. And enjoyed it. But vowed to come back, bring some firepower with him and do the job properly. So he's back.

Solberg's enormous PSRX truck, which is easy to miss if you intend to walk the NEC staring at your feet, will empty itself of around 1000bhp this week. The Citroen DS3 Supercar, used by the Norwegian to dominate this year's World RX series, will be on show on the Motorsport News stand.

But the one we're really interested in is the Citroen Xsara WRC.

Yes, yes, yes, we know, the Xsara's had its day. Sebastien Loeb stopped winning in them years ago. But this is Petter Solberg. This is a man whose primary school teacher "bollocked him" on a daily basis for turning up in class with oily hands from working his mum and dad's race Beetles. Before school.

Trust us. This will be no ordinary Xsara.

And a Solberg show will be no ordinary show. Hollywood can't help himself. When he's on form, he's infectious. That sounds a bit odd... infectious in a good way.

"Honestly," he says, "I can't wait to get back to Birmingham. Last year was fantastic to see so many people. But, we went there after we'd had a tough year [in European Rallycross], we didn't win a race. But we still had a good time talking to guys like Henry [Hope-Frost] on the AUTOSPORT stage and signing autographs.

"This year we're coming as world champions. You tell those guys: they better be ready for a proper show!"

Solberg's enthusiasm for four wheels and four-star has never dimmed. He grew up in a house utterly dominated by motorsport.

"Between them, my mother and father won more than 500 races," he says. "Motorsport was everything for them and it is for me and my brother, Henning."

Henning's not coming, by the way; Birmingham's not big enough for two Solbergs.

"When I was young, all I wanted to do was work on cars," says Solberg. "When I left school and started work I was worried that I would get bored of them if I went to work in a garage, so I started work as a painter [as in a painter and decorator]. Then I couldn't wait to finish work every night to get home and get back under the bonnet."

Nothing's changed. Solberg still can't help himself. He's still the first to get his hands dirty if the PSRX DS3 hits trouble. Not that it hit much trouble this year. Five wins and the World RX title with two rounds to spare indicate how far the car has come.

"We worked really hard over last winter," he says. "Last year, I was flat-out, taking big risks all the time and I made the car too lightweight.



Solberg's Citroen Xsara WRC will get a ragging in Live Action

It broke. This year the only problem we had was with the dampers – but already we worked on them and now the car really is fantastic."

Beyond spending the rest of this week in Birmingham entertaining you and me, Solberg's immediate future remains undecided.

Development and the pursuit of PSRX partners has continued apace over the winter, but still he hankers after a return to rallying. He's coy about the chances, but clearly has something up his sleeve. And it goes beyond the potential for a third successive Rally Sweden Historic win with the good Mrs S co-driving the family MkII Escort.

Much as he loves rallycross, he'd drop the lot for one more tilt at a Frenchman called Sebastien – admittedly a different one to the Loeb variety that bugged him for much of his WRC career.

It's an overlooked fact that Solberg is the only man to beat Sebastien Loeb across the spread of an entire season. Loeb's first full year in the world championship was 2003, when Petter pipped him by a point. From 2004 until 2012, well, we all know what happened then.

As Loeb's career took off and blossomed into nine titles, Solberg's star at Subaru faded until the Japanese manufacturer did the unthinkable, walked away from the sport and mailed Solberg his P45.

Taking Solberg back to the likes of 2006 – when the Impreza simply didn't work – changes him. He sits forward. More serious.

Does it still hurt?

"It still fucking hurts," he says,

"when I think back to those times. It does come back to me

The Solberg enthusiasm is infectious

at times and I try not to think about it and I try not to get any questions about it... There was so much in the background at that time. There was a lot of politics."

There certainly was. And no shortage of bad blood in Banbury.

"Honestly," says Solberg, "I could understand why some people got pissed off; I can understand that David Richards got pissed off with me. But the only thing I did was the best thing for the team. There were 20 people and 19 of them didn't want to say anything. And then I said everything, but it was all for a good reason.

"I'm not a bad person or a nasty person, but I say my opinion and sometimes that's hard for other people. But equally, I'm happy. I don't have any trouble to sleep at night – and some people can't say the same thing."

He's had enough of that chat.

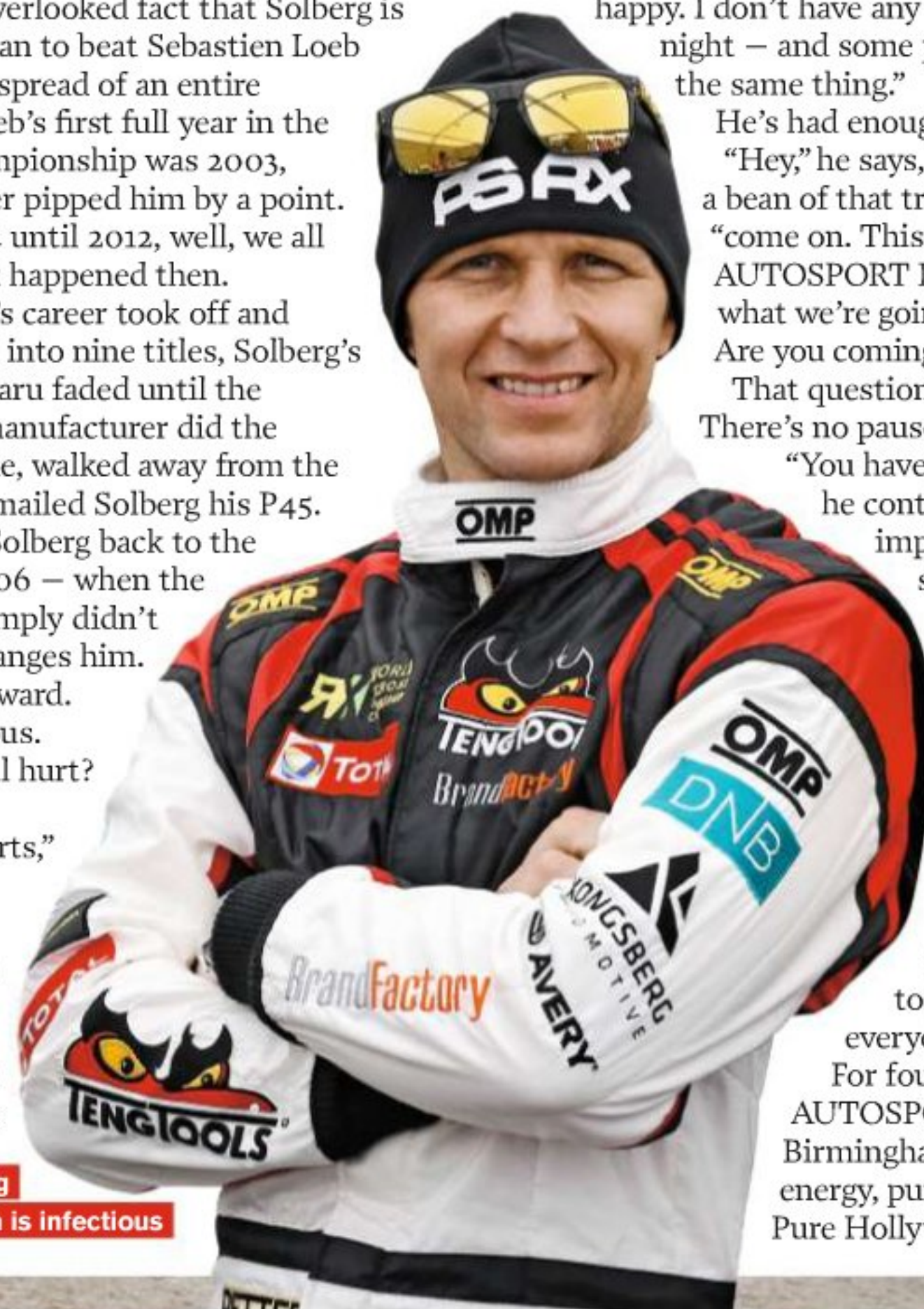
"Hey," he says, leaning back with a bean of that trademark smile, "come on. This story is about AUTOSPORT International and what we're going to do there. Are you coming to watch?"

That question was rhetorical. There's no pause for an answer.

"You have to. It'll be fantastic,"

he continues. "It's so important to make the show for the fans, they are everything, you know. That's one thing I don't understand so much about the WRC at the moment: the show is not so big. We try to make a big noise in rallycross, we try to put a smile on everyone's faces."

For four days only, AUTOSPORT's corner of Birmingham will be pure energy, pure enthusiasm. Pure Hollywood. ☘





THE FANS' SMASHING INDICATOR

Our sister publication MOTORSPORT NEWS celebrates its 60th birthday this year, with a great display lined up at AUTOSPORT International

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KEVIN TURNER

MOTORSPORT NEWS editor

For six decades, *Motorsport News* has covered the incredible variety in our sport, particularly in the UK. From Formula 1 to rallying, via club racing and trials contests, we've highlighted the best performances, key events and fascinating stories motorsport has to offer.

In 2015, *MN* celebrates its 60th anniversary and we're planning a series of events and awards to mark the event, as well as a series of special articles. Interviews, track tests and MN60th trophies will all be part of the celebrations, but our first event will be AUTOSPORT International.

The *Motorsport News* stand in Birmingham will feature a special display of cars from our history. From the 1950s we'll have a Jaguar D-type, 60 years after it took the first of three Le Mans 24 Hours victories.



DAN MOFFATT



MN covers the sport from this...

THOMPSON/GETTY

A V8 Ford Mustang provides some 1960s tin-top grunt, while Steve Perez's popular Lancia Stratos is our rallying icon from the 1970s.

Already confirmed for the 1980s is a Williams FW07C, but a highlight for many will be our 1990s machine. Thanks to Prodrive, we'll have the Subaru Impreza that the legendary Colin McRae took to the 1995 World Rally title.

Fittingly, given Tom Kristensen's recent retirement, a Super Touring Honda Accord formerly raced in the British Touring Car Championship by the Dane will also join the line-up, which is completed by Petter Solberg's Citroen DS3 rallycross machine. Ever popular, the inaugural World Rallycross champion will also be one of a number of stars interviewed on the *MN* stage.

And as a backdrop to all that, we've picked a selection of historic *Motorsport News* covers, which give a fascinating insight into how the paper has moved with the times for over half a century.

Come along and join our celebrations.

MARCUS SIMMONS

AUTOSPORT deputy editor

OK, so Kevin Turner headed from AUTOSPORT to take over as editor of *Motorsport News* a couple of months ago, but the traffic has usually been in the other direction.

I started there 25 years ago this month, when it was still called *Motoring News*. The front page was an enormous shot of John Cleland leading a gaggle of BTCC cars at the Birmingham Superprix, because the major feature inside was the series review written by Mark Hughes – another guy who would cross the divide from *MN* to AUTOSPORT, and who now works for a certain monthly mag with a green cover.

Our website editor Glenn Freeman is another to have started at *MN*, albeit in its swankier Teddington era. By the time Glenn joined, David Evans had already departed to become AUTOSPORT rallies editor (he does both now), while our current senior designer Michael 'Mario' Cavalli had yet to kick off his time at *MN*.

Lastly, a big young fella from Guernsey did some work experience at *MN* in 2002, then wandered into the AUTOSPORT office to do the same. We couldn't get rid of him, so Edd Straw is now the editor of AUTOSPORT magazine.



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DISPLAY CARS CORRECT AT TIME OF GOING TO PRESS



1950s

AUTOSPORT International display car
Jaguar D-type

To many people the greatest driver who ever lived, Jim Clark, shot to prominence during the 1958 season in a Jaguar D-type run by the Border Reivers team. The car had been raced by Henry Taylor in '57, before being bought by Border Reivers men Ian Scott Watson and Jock McBain. Three drivers – Scott Watson, Clark and Jimmy

Somervail – tried the car at Charterhall and it was decided that Clark would race it. The D-type was replaced by a more contemporary Lister-Jaguar in '59, before Clark moved into the single-seater world with Lotus. The car is still raced successfully today, by Gary Pearson and Carlos Monteverde.



1960s

AUTOSPORT International display car
Ford Mustang

The heavy-metal American V8s invaded the wheel-waving hordes in what would become the British Touring Car Championship during the mid-1960s. Byfleet-based Alan Mann Racing was synonymous with Ford, and Mustangs prepared by the team would pile up the successes, with Roy Pierpoint winning the '65 title. Engine-tuning wizard Neil Brown's Mann-built example is on the *Motorsport News* stand at the show. While his powerplants have won countless races in the BTCC, Formula 3 and DTM, Brown only took up competing as a driver a few years ago in historic touring cars.





1970s

AUTOSPORT International display car

Lancia Stratos

If Michelangelo had come along just half a millennium later, he would have made this car. Forget St Peter's Basilica, Renaissance man himself would have made the Lancia Stratos. Just look at it. Beautiful. The VK outfit might have been updated from the 1970s Alitalia look, but it still looks as gorgeous as it ever did. And, thanks to Steve Perez, this one keeps on delivering in terms of sound and spectacle. Perez rarely uncrosses his arms once he's fired some fuel through those six northern Italian cylinders. And the noise? Puccini doesn't come close.



1980s

AUTOSPORT International display car
Williams FW07C

Not many cars have been driven by three different world champions – and one of the best drivers never to win the title – so this car, in which owner Mike Wrigley is a leading light in historic racing, is a special one. It was raced by Alan Jones in 1981 and by Carlos Reutemann and Mario Andretti (on his one-off in Long Beach) in '82, and is believed to have been driven by Keke Rosberg. It also became a Williams six-wheeler before being converted back to FW07C specification.



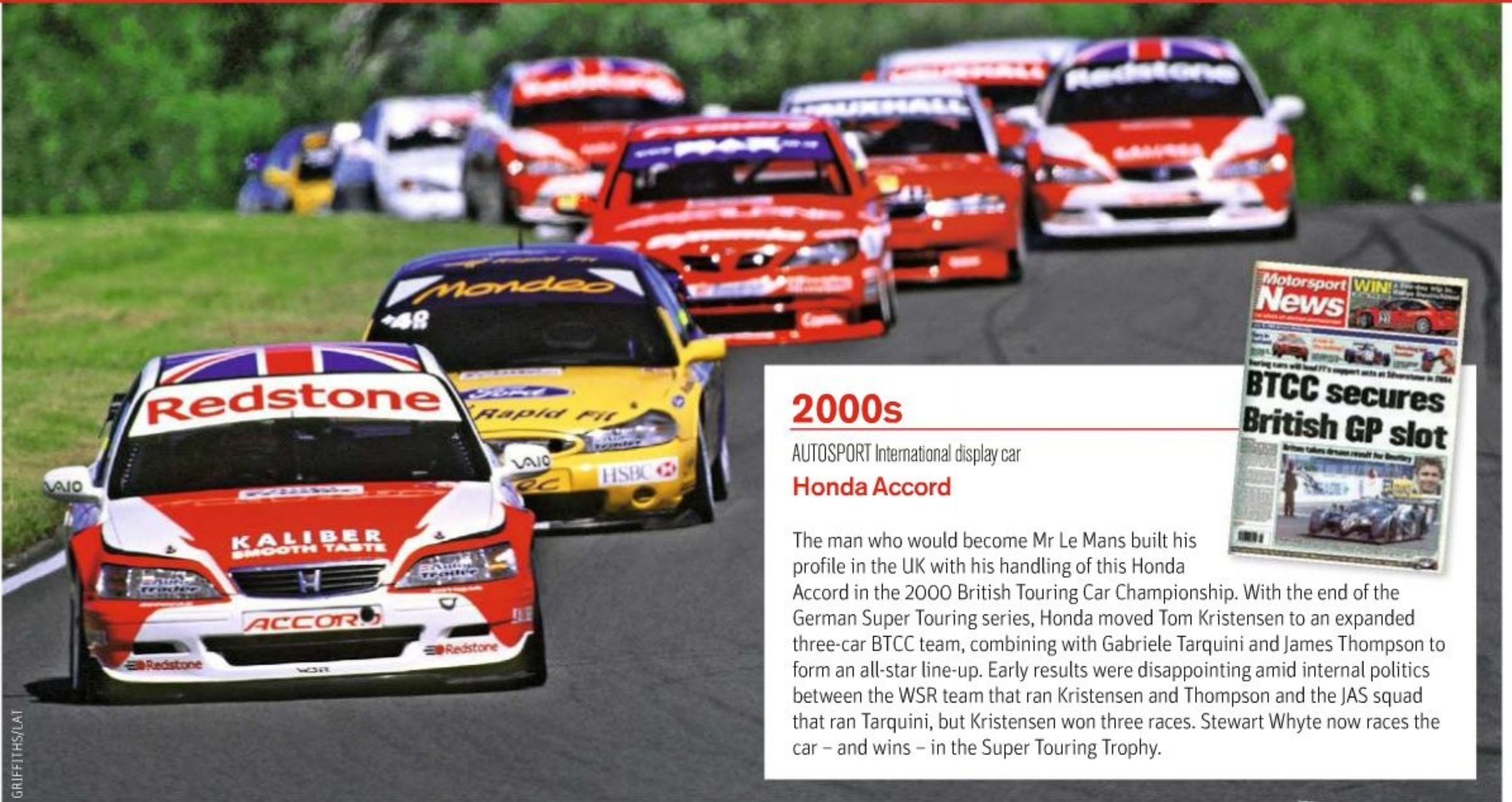
1990s

AUTOSPORT International display car
Subaru Impreza 555

Twenty years ago, this car was made in Banbury. Then it was taken around the world by Colin McRae. By the end of the 1995 season, the Scot and his Subaru had beaten everything that world had to throw at it. The Impreza was, and always will be, Colin's car. They were as one; champions both. And both were the pride of a generation of British rally fans. In this car, with the flat-four on song, nothing and nobody could stop McRae and his co-driver Derek Ringer. After a turbulent Catalunya Rally, the 1995 RAC Rally was their crowning glory.



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2000s

AUTOSPORT International display car
Honda Accord

The man who would become Mr Le Mans built his profile in the UK with his handling of this Honda Accord in the 2000 British Touring Car Championship. With the end of the German Super Touring series, Honda moved Tom Kristensen to an expanded three-car BTCC team, combining with Gabriele Tarquini and James Thompson to form an all-star line-up. Early results were disappointing amid internal politics between the WSR team that ran Kristensen and Thompson and the JAS squad that ran Tarquini, but Kristensen won three races. Stewart Whyte now races the car – and wins – in the Super Touring Trophy.



GRIFFITHS/LAT



2010s

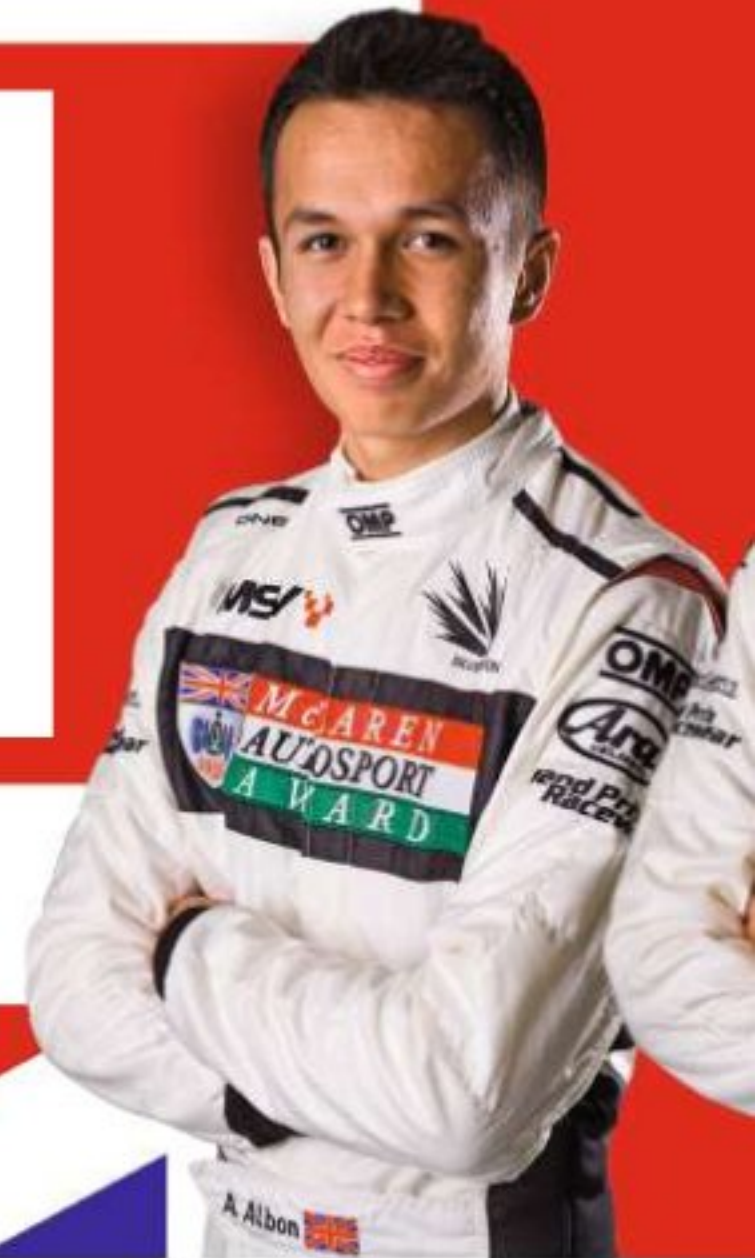
AUTOSPORT International display car
Citroen DS3

When Petter Solberg drops the clutch on this car, it's quite like the earth momentarily stops spinning on its axis, such is the torque, power and insane traction that comes from the 600bhp motor mated with four-wheel drive and sticky boots. The Norwegian superstar is the only driver to qualify for every one of 12 World RX finals last year. He won five of them and took the title with two rounds to spare. And he did it all in this car. Whatever you do, don't touch it. As well as being super-quick, it's also super lightweight.

MEKLEIN/LAT

THE FUTURE FACES OF

BRITAIN



The six finalists from the 2014 McLaren AUTOSPORT BRDC Award will be on stage each day at the NEC. SCOTT MITCHELL and MARCUS SIMMONS discover what makes them so good

34

ALEXANDER ALBON



2015 PLANS

Expect him to be in Euro Formula 3 with Signature

STRANGE BUT TRUE

His dad Nigel raced in the BTCC in 1994 as a privateer, with the much-maligned Renault 19 Super Tourer

The London-born Thai stayed with Belgian team KTR for a second year to mount his third assault on the Formula Renault Eurocup. He finished third, with three podiums.

"We picked him up when he was pretty much down, and kicked out of the Red Bull scheme," says KTR's Kurt Mollekens. "Luckily he got onto the Lotus programme. I think he's an exceptional talent, even if we didn't win any Eurocup races [although Albon did win one NEC round as a wildcard]. Along with Stoffel Vandoorne he's the driver we've run who stands out most."

Mollekens says Albon is so calm that KTR had to do work on its radio system so he could be heard! "He's humble and modest – he's in total control," he adds.



BEN BARNICOAT



2015 PLANS

Formula Renault Eurocup with Fortec Motorsport

STRANGE BUT TRUE

Just like the Schumacher brothers, his dad manages a kart circuit, in his case PF International in Lincolnshire

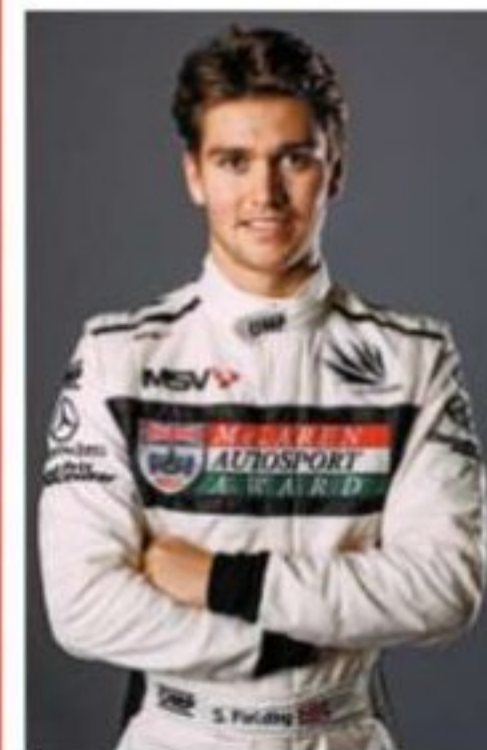
In his first full season of car racing, the 18-year-old Racing Steps-backed driver carried off victory in the Formula Renault Northern European Cup.

"He had high expectations coming in," says Fortec Motorsport managing director Jamie Dye. "He won the 2013 BARC Renault Winter Series and went well in testing, and he had good mentors in the other Steps drivers."

Particularly Formula Renault 3.5 star Oliver Rowland, who was Fortec's driver coach in FRNEC. "That was really important," adds Dye. "He's been there and done it, so Ben believed him. The same goes for the experience of the engineers. Everyone was rooting for him and that allowed him to get on with it."



SENNAN FIELDING



2015 PLANS

Targeting a graduation into the GP3 Series

STRANGE BUT TRUE

He should have made his FRenault NEC debut at Silverstone but wrote the car off in qualifying. Team boss Vincenzo Sospiri was not put off and drafted him in for a racewinning Italian F4 stint for events at Imola and Monza

Sennan Fielding's first attempt at BRDC Formula 4 was cut short due to funding issues, but a second crack proved far more successful.

He clinched the category's first-ever weekend hat-trick with a dominant Silverstone round, although his efforts with the HHC Motorsport team were ultimately not enough to land the title.

They did, however, earn him a place in the Award shootout, with team boss Charlie Kemp praising his "consistency and maturity" despite a nightmare first half of the year in which mechanical problems and poor driving from his opposition often resulted in his results being a poor reflection of his pace.



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ALL STUDIO PICS: GIFFITHS/LAT

SEB MORRIS



2015 PLANS
Seems to be heading for GP3 with Status

STRANGE BUT TRUE
He's a bit of a male model, as a face of Jack Wills through its Young Britons campaign

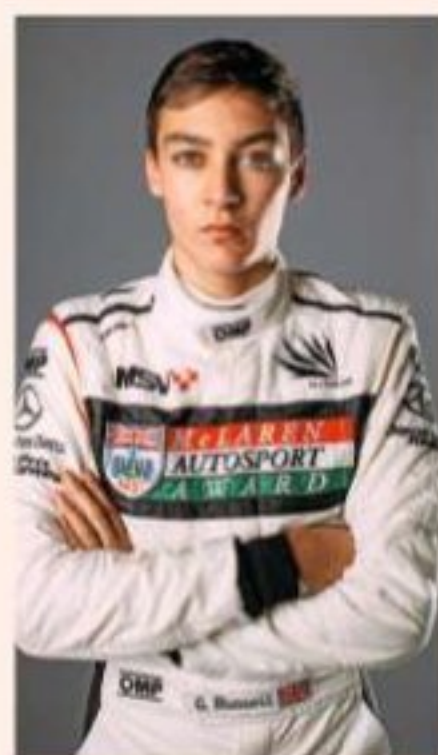
Welshman Morris stepped up from the national scene to finish third in Formula Renault NEC with Fortec Motorsport.

"Seb has such high self-confidence," says Fortec managing director Jamie Dye. "When his pre-season was a bit up-and-down to begin with that hit him, and we had to work on his technique because the current Renault 2.0 is a lot different to the old BARC car. During the season he clicked with the car, and scored more points than anyone in the second half."

Morris is probably moving on for 2015, but Dye would have loved having him in his Eurocup team: "I'd be very worried if he got a lower-budget offer to do Eurocup, because his progress was incredible."



GEORGE RUSSELL  **WINNER**



2015 PLANS
Looks like Euro F3, most likely with Carlin

STRANGE BUT TRUE
Russell's first silverware in car racing came in a Peugeot 206 – he won his class at Donington while gaining the necessary licence signatures to race in Europe

As debut single-seater campaigns go, Norfolk man George Russell's was spectacular. The 16-year-old wrapped up the BRDC Formula 4 title with Lanan Racing, won a Formula Renault Eurocup race as a Tech 1 Racing wildcard and clinched the McLaren AUTOSPORT BRDC Award, earning himself a McLaren Formula 1 test and £100,000.

"I expected a 16-year-old to be a kid and he just isn't," says Lanan boss Graham Johnson. "He's very grown-up off the track. On track, he used every millimetre of the circuit. He's super-brave; he would eat people alive in the fast corners."



HARRISON SCOTT



2015 PLANS
Aiming for Formula Renault Eurocup

STRANGE BUT TRUE
Scott's fellow finalist Alexander Albon was an early title rival in karts – Albon pipped him to the Super 1 Honda Cadet title in 2006

Essex racer Harrison Scott went from distant runner-up to title challenger in British Formula Ford, overcoming a mid-season car problem with relentless consistency to lead the points for the majority of the year. Heartbreak would follow as he lost the crown at the final hurdle following a controversial clash with title rival Jayde Kruger.

"What impressed me right from the beginning is he is ultra-consistent," explains Falcon Motorsport boss Nick Streatfield. "He was super cool, never fazed at all."

Scott held his nerve during a worrying run where he lacked the pace of others. "We changed the chassis for the last two rounds and the car transformed overnight," adds Streatfield. "He did brilliantly in the circumstances."



THE MUST-SEES

AT

AUTOSPORT INTERNATIONAL 2015

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AUTOSPORT STAGE

Reigning World Endurance champion Anthony Davidson is among the leading stars of motorsport who will feature on the AUTOSPORT stage – the centrepiece of AUTOSPORT International. The 35-year-old Briton will take his turn in the interviewees' chair, where Master of Ceremonies Henry Hope-Frost will no doubt download him on his greatest moments in the Toyota TSO40 HYBRID – and hopefully a few Super Aguri anecdotes too. Davidson's predecessor as WEC king, Allan McNish, will also take his turn on the stage, while Formula 1 hero and last month's Race of Champions victor David Coulthard continues a very tartan flavour. No fewer than four British Touring Car champions – reigning title holder Colin Turkington, plus Andrew Jordan, Gordon Shedden and Matt Neal – join World Rallycross king Petter Solberg in adding a tin-top element, and don't miss Britain's newest F1 racer, Will Stevens, or the McLaren AUTOSPORT BRDC Award finalists.

F1 RACING GRID

As usual the stand of our sister mag *F1 Racing* will feature one of the biggest attractions of the show. Actually, on this occasion make that *two* of the biggest attractions. The traditional *F1 Racing* grid will bring together cars from all nine constructors to have completed the 2014 world championship season. Pride of place will go to the Mercedes F1 W05 Hybrid, which is joined by Red Bull, Williams, Ferrari, McLaren, Force India, Toro Rosso, Lotus and Sauber. That's not all: make sure you catch the unveiling of 'Denimu', a striking portrait of the great Ayrton Senna created by British artist Ian Berry, using denim from jeans worn – and worn out – by members of the Senna family.



LIVE ACTION



Sky Sports F1 man David Croft is used to commentating on grand prix thrillers, and he'll be doing the same in the Live Action Arena, except this time he'll be talking about the BriSCA F1 Stock Car variety! The Arena seats 5000 people and the F1s won't be the only entertainment, as their BriSCA Formula 2 cousins will also be on hand, together with Super Modified contenders from the BTRDA Clubmans Rallycross Championship, an autograss Class 7 contingent, and a Team Japspeed drifting demo. And that's not to mention Petter Solberg (see page 28). One highlight will be the Dan Wheldon Karting Trophy, a three-hour charity race where you can help raise money for the Alzheimer's Society and which kicks off at 6pm on Saturday.

ADRENALINE ZONE

If fancy a thrill, then head over to the Adrenaline Zone. Here, you can take to the indoor karting track and measure whether you've got what it takes to possibly be up on the AUTOSPORT stage as a motorsport legend in a few years' time, being interviewed by Henry Hope-Frost. Or, if you don't want to drive, go for a Ginetta Thrill Ride in a Ginetta G40 Club Car, as raced in the Ginetta Racing Drivers' Club series. The Leeds manufacturer's works drivers will be on hand for driving duties.



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HISTORICS

'Historics', a fantastic display of 16 evocative cars, is presented jointly by the Silverstone Classic and our sister magazine, *Classic & Sports Car*. With the show being in Birmingham, we reckon Nigel Mansell's 1981 Lotus 87 will get plenty of interest. We're pretty keen to see the ex-Michael Schumacher Group C Mercedes C11, the Lola T70 Spyder and the ex-Bruce McLaren Cooper T53 too. Don't miss Lister Storm, Jaguar D-type, Stingray Corvette or ex-James Thompson BTCC Honda Accord either.



RENAULTSPORT

Should you have an overactive saliva gland, you won't want to be going anywhere near the Renaultsport stand. The Regie's droolsome new RS 01, which forms the basis for surely its most incredible one-make series yet, will be on display. Built around a Dallara carbonfibre tub, the RS 01 is powered by a 500bhp, V6 twin-turbo Nissan engine. It will compete in the Renaultsport Trophy on the World Series by Renault bill, and this is its UK public debut.

DUNLOP MSA BTCC DISPLAY

If you want to find out what Andrew Jordan's going to be driving in 2015, then you'd best make sure you pay a visit to the Dunlop MSA British Touring Car Championship display, where the 2013 title winner's plans for the new season will be revealed. That's not all, because WSR, the team that ran Colin Turkington to the 2014 title, will have a BMW 125i M Sport on display, BTCC folk hero Rob Austin brings his Audi A4, and one of the series' big new attractions – the Infiniti Support Our Paras Racing team – will be on-hand with its Derek Palmer-driven Infiniti Q50.



AUTOCAR SUPERCAR DISPLAY



Our colleagues on top road-car weekly *Autocar* have lined up a powerful quartet of supercars for their stand, which will be a star of the Performance Car Show in association with *Autocar* and *pistonheads.com* – they have a combined output of 1800bhp! Lamborghini's brand-new V10-engined beast, the Huracan, is joined by the Ferrari 458 Speciale, named a couple of months ago as Britain's Best Driver's Car in *Autocar*. Add to that the lightweight Vuhl 05 from Mexico and the electric BMW i8 – the vehicle of choice as Formula E's safety car – and you have a display not to be missed.

TICKET DETAILS

Advance tickets from www.autosportinternational.com

Cost
£32 per adult per day, allowing you free entry to the Live Action Arena and Performance Car Show. It's £21 for children aged 6-15, with five-and-unders free. Paddock passes and VIP Club tickets cost more.

Family ticket
£85 for two adults and two children.

There's a £2-per-ticket admin fee; £6 for the family tickets.

THE SHOW IS OPEN FROM 9AM-6PM
ON SATURDAY AND SUNDAY.

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HOW ALESI ROCKED F1

A quarter-century ago an exciting French talent had not only swept to the Formula 3000 title but starred in F1 with Tyrrell too.

CHARLES BRADLEY reminisces with Jean Alesi about 1989



"I always drove on instinct, rather than making lots of laps to learn tracks. I loved racing" JEAN ALESI



Breakout years, the kind that define a top-level driver's career and can shake up an entire generation, come along only rarely. This year Daniel Ricciardo had that kind of season. But a quarter of a century ago, with legendary talent spotters Eddie Jordan and Ken Tyrrell behind him, Jean Alesi became the hottest prospect on the grand prix grid.

But does it really feel like a quarter of a century ago to Alesi? "I can believe it was 25 years ago, because today my kid is racing and I am the one who is doing all the watching!" he laughs today.

"But when you have a chance, you just have to take it. In 1989 I had the chance, in F3000 and then in F1, and I just said to myself, 'Go for it.' And this is how.

LAST NIGHT AN EJ SAVED MY LIFE

Alesi's amazing 1989 story really began at Macau at the end of '88. He was trying to salvage his career after a woeful FIA Formula 3000 debut season with ORECA, where he scored one podium (at Pau). The season ended with a dispute between him and his miffed race engineer (who suggested that whoever worked with Alesi in future would require a psychology degree – in this very magazine's letters pages!).

Alesi, who had pulverised the French Formula 3

opposition with ORECA in 1987, says of '88: "It was a very bad moment for me. And Macau was going very well until I got a puncture. I was so upset, because I was leading the race and ended up finishing 11th on three wheels.

"Fortunately, Eddie Jordan was there and was pretty impressed with what I had done, so he went to my brother [Jose, who was also Jean's manager] and asked if I was free for next year. We made the deal, and basically he saved my life."

F3000 CHAMPION

The history books tell us that Alesi tied on points for the 1989 FIA F3000 title with Erik Comas. In reality, it was only because of Comas's win in the season finale at Dijon that he equalled the



Eddie Jordan signed Alesi after 1988 Macau race



Alesi and EJ were reunited later in Jean's F1 career



Camel connection opened F1 door for Alesi at Tyrrell

tally of the absent Alesi, who was contesting the Japanese Grand Prix at the time and whose three victories for Eddie Jordan Racing meant he couldn't be surpassed.

"But, you know, I don't care," he says of the outcome. "I achieved the championship and I did it for Eddie as well as myself. For one of the two races Comas won, I wasn't even there."

His season didn't begin in Europe, but in Japan. Loaned out to Team Kygnus Konen for the opening rounds of the All-Japan F3000 series, but running on uncompetitive Yokohama rubber, it was here that he began to form a great relationship with race engineer Paul Crosby, the sort he had so lacked the year before.

"Paul was a big part of that success, he was very close to me and really understood me and the way I was driving the car," he says. "Even though we were uncompetitive on those tyres, it was our first experience of working together and we built our relationship straight away. It definitely helped for why we were so quick straight away in Europe."

And what a European season it was: three race wins, two on the streets in Pau and Birmingham, and one on the fast, flowing sweeps of Spa-Francorchamps.

"I always drove on instinct, rather than making lots of laps to learn tracks, and I had a passion for what I did – I loved racing, I could be quick everywhere.

"Being behind the steering wheel was what I was living for, whether it was Spa, Silverstone, Monza – wherever. I was getting so much feedback from this car, so whenever I produced my best, I was quick."



Porsche experience at Le Mans wasn't very enjoyable

Tough time at Le Mans in Porsche

As if an FIA F3000 campaign (plus selected All-Japan F3000 races) and eight grands prix weren't enough, Alesi also contested his first Le Mans 24 Hours and a round of the IMSA GT series in the US in 1989.

Alesi drove a Team Schuppan-run Porsche 962 at Le Mans, sharing with British ace Will Hoy and Indycar racer Dominic Dobson.

"It was not a good memory," he says. "This car on the long straights, with such high speed, was very difficult to control. I never got any good feeling with the car; I got so little feedback."

Alesi's car would retire dramatically with a turbo fire on Saturday evening with Dobson at the wheel: "All the Porsches had this defect, and caught fire one by one."

A machine Alesi preferred was the Ferrari France-entered F40 he drove in IMSA at Laguna Seca. He led for six laps against the all-conquering Audis of Hurley Haywood and Hans Joachim Stuck. But tyre trouble hampered his efforts in the three-litre, twin-turbo machine in the one-hour race.

"I loved driving it; it was all wheelspin and oversteer – just my style!"



Alesi returned to the F3000 cockpit to close out the title in 1989

THE BIG F1 BREAK

In a scenario that's unlikely to happen today, Alesi made his F1 debut at the drop of a hat – or, at least, after an argument about cigarette sponsorship. Erstwhile incumbent Michele Alboreto fell out with Ken Tyrrell on the eve of the French Grand Prix because his personal Marlboro sponsorship clashed with Uncle Ken's new Camel deal. Despite

an excellent third place in Mexico earlier that season, proving the Tyrrell 018's huge potential, Alboreto walked out. Having already placed Martin Donnelly with Arrows for this race, replacing the injured Derek Warwick, Jordan was required to turn F1 supersub wheeler-dealer again...

"It was certainly not planned, put it that way," says Alesi. "I was testing the 3000 car at Monza. ▶"

“Eddie bet with Ken that I would finish higher than Jonathan Palmer – in front of Jonathan” JEAN ALESI

Alesi only picked up minor damage while avoiding Gugelmin shunt



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► There were no mobile phones in those days, and I got a message from Eddie: ‘Hurry up, you need to be at the Tyrrell factory today.’ I called him and said, ‘Eddie, are you joking? Physically I have no time to get there.’ He said, ‘Do anything, just get there!’ So I jumped in my road car and drove from Monza to Avignon. I picked up my brother and the next day, the Wednesday, we were in the Tyrrell factory, signing the deal.”

That led to his first embarrassing moment, when Tyrrell technical aces Jean-Claude Migeot and Harvey Postlethwaite didn’t quite know who this chap was chatting to the mechanics on the factory floor. “Harvey said, ‘Might you be Jean Alesi?’ And when I said yes, he said, ‘Well, we’d better get you comfortable then.’ They were so nice, I felt at home straight away.”

So the one-off race contract was signed with Tyrrell (with Jordan present) that day, and just 24 hours later Alesi would be making his F1 race-weekend debut, having never sat in an F1 car before making his seat. He was “too shy” to ask for any alterations from Alboreto’s set-up, but there were more embarrassments to come...

“Eddie was as crazy then as he is now, you know? He was telling Ken so many things: ‘He’s going to



Jonathan Palmer was Alesi’s first F1 team-mate

be quick, he’s going to be right at the front...’ and, for me, I was saying, ‘Eddie, you have to shut up, it’s embarrassing, after all this is Ken Tyrrell you are talking to here!’ Remember, Ken was very popular in France, because of his long Elf links. I knew exactly how important he was.

“Then on the race weekend Eddie bet with Ken that I would finish higher than my team-mate, Jonathan Palmer. Again, that was embarrassing – Eddie did it right in front of Jonathan.”

So the man whose helmet is a tribute to Elio de Angelis would make his F1 debut at the circuit that claimed his childhood hero’s life. His first task was a series of short, five-lap runs to learn the car. But when he did a 10-lap run, he realised Alboreto’s seat gave him severe back pains, which led to adjustments that made him feel “perfect” for his grand prix debut.

Before qualifying, Migeot warned Alesi to beware that some drivers won’t qualify for the race, and that if he was one of them, not to worry about his future chances with the team. “I said, ‘Jean-Claude, we don’t know each other very well, but I will show you what I am able to do.’ So I went out on the afternoon and set the seventh-fastest lap, and everybody was really happy.”

Traffic in Saturday’s second qualifying demoted him to 16th for his first F1 start, but it kept him out of the firing line for the huge crash at the first corner, where Mauricio Gugelmin famously flew through the air, causing chaos and a red flag.

Was Alesi worried? “I wasn’t shocked at all. In F3000 it happened all the time! A restart was nothing for me, I was more surprised when nothing happened at the restart.” After a small repair was made to a steering-wheel bracket, which had been



Alesi took his EJRB Reynard to Birmingham win

How Alesi signed for Williams

– but never drove

It will be one of grand prix racing's great unknowns. Had Williams confirmed Jean Alesi as its driver for 1991, instead of him joining Alain Prost at Ferrari, might he have become world champion in '92 instead of Nigel Mansell?

"Williams was going up, getting stronger at exactly the same time that I was," he says. "I so wanted to drive for them, to keep learning the job. In my head, everything was set: I had 1990 at Tyrrell and then I was a Williams driver from '91. I had no pressure in my mind, it was all perfect.

"I signed the contract with Williams for three years. The announcement was supposed to come at Paul Ricard, in July [1990]. And after this, if the announcement was not made, it reverted to being an option until September.

"Williams didn't do the announcement there, so I pushed them for Silverstone because Ferrari was by now pushing very hard for me. I said to Frank, 'If you don't announce my drive at Silverstone then I will sign for Ferrari.'

"Frank wanted to wait, to see if he could get [Ayrton] Senna. We talked together with Frank, and it's a long story, but everything would have been perfect if I'd driven for him. It's easy now to say what might have happened..."



Alesi joined Ferrari after Williams drive fell through



One-off race deal with Tyrrell became a full contract

damaged in his evasive action through the debris field, Alesi made one of the most dramatic F1 debuts of all time.

"The car was fantastic, the balance was perfect," he says of the race. "I concentrated lap by lap, not making any mistakes, and I was very careful to use the tyres in the best way possible. Everybody else seemed to struggle with the wear of the tyre, but mine were very good.

"I ran a long first stint, that was why I was able to run second to Alain Prost's McLaren. Everything went well, and I finished P4 in my first grand prix with zero testing. The way it all happened was great. It was also my first ever pitstop – it was difficult with no speed limit, so the braking point, while aiming at the mechanics, was interesting."

Suddenly Alesi went from an unknown, who'd walked into the paddock quite unrecognised on

Thursday, to a national hero and future F1 star. "The garage was full of journalists when I got back, so many people, and I understood at this moment that I had arrived in motorsport. I enjoyed the moment."

FINISHING THE SEASON IN STYLE

Alesi couldn't celebrate too much because the British Grand Prix was only seven days away. There was also another small hitch...

"I had no contract and Eddie was, er, pushing for one!" he chuckles. "It was so funny to watch him, and it was great for me because he got me a contract with Ken to finish the championship and a full season for the following year."

His British Grand Prix ended with a crash trying to take Club Corner flat-out while lining up Philippe Alliot for a pass, but points finishes followed at Monza and Jerez.

"The car was amazing, technically the best of the year, but obviously the [Cosworth V8] engine's power was poor," says Alesi. "I always felt we could finish in the top six wherever we went.

"The balance was great for the tyre, much better than the V10s and V12s which had to run much more fuel. So, even at Monza, being economical was as quick as being able to do fast lap times."

He finished ninth in the points in 1989, despite starting only eight races, and missing the Belgian and Portuguese GPs to finish his F3000 campaign.

"I told Eddie, 'Thank you so much for everything you've done for me, now I'm in F1 so thank you.' He said, 'No, no, no. You need to finish the 3000 championship and you have to win. Otherwise, you'll never race in F1!' I argued, 'But I'm at Tyrrell now, I don't care about F3000.' But he wouldn't let me, so I had to finish my job with him."

Peugeot ready for desert storm

The French marque heads into the Dakar with a new car and sights set on victory. **JAMES BOLTON** joined the team in Morocco for the pre-event test







There's a grimace on Carlos Sainz's face. The Spaniard doesn't look happy as he saunters over to talk about how Peugeot's Dakar preparations are going.

This is Morocco, near the town of Erfoud. The capital, Marrakech, is about 300 miles to the west and the border with Algeria is about 30 miles to the east. Two-time world rally champion Sainz is here to continue his test programme with Peugeot's new 2008 DKR, the car with which he hopes to add a second Dakar Rally win to his impressive CV.



Sainz (left) chats with Peterhansel about the new car

The project started in December last year so there hasn't been enough time to fully test the new car. And now, following a collision with a rock that's damaged the chassis, the final test is over.

But it's not all doom and gloom. Peugeot is at the beginning of a three-year programme, and it's task is harder than it would be have been because it didn't want to return to the race it won four times between 1987 and 1990 with its own version of someone else's successful design. It's decided to build a two-wheel-drive, diesel-powered car. It's unheard of for a serious team to try to win with such a configuration.

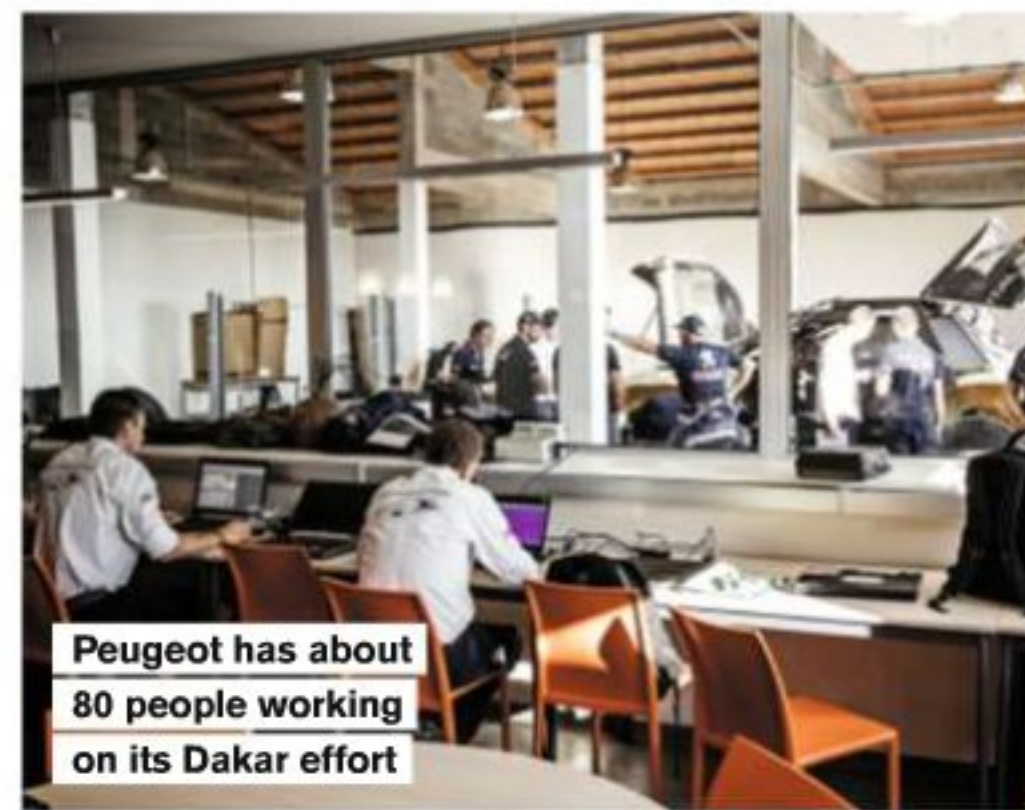
THE CHALLENGE

Peugeot has a varied motorsport history. In the past few decades it has won world drivers' titles in rallying and has won the Le Mans 24 Hours on three occasions. It has tried Formula 1, and it has pedigree at Dakar and the Pikes Peak hillclimb.

Peugeot's most recent sportscar programme was cancelled abruptly at the start of 2012, a victim of restructuring at the PSA Group. Some Peugeot Sport engineers stayed on, and they built an extreme 208 that smashed the Pikes Peak record in the hands of Sebastien Loeb in July 2013.

Dakar is different to Pikes Peak and Le Mans. The route is 5500 miles long, and it's crammed into 13 exhausting days. And Peugeot isn't ready for the January 4th start date.

"Peugeot Sport has an eclectic history," says team principal Bruno Famin. "In 25 years the main programme has changed quite a bit but there's one constant: rally cars. Since the [Group B] 205 T16 we have never stopped developing rally cars. The



Peugeot has about 80 people working on its Dakar effort

2008 DKR is just a rally car but with more suspension travel."

Famin's assertion that this new machine is an uprated rally car doesn't quite ring true. While the world and European rally championships run for adapted road-going cars, the Dakar, and all rally raids, are for purpose-built vehicles. They need to be able to traverse the rocks and boulders that litter the terrain, and they need to work on short sprint stages and longer endurance tests. The car needs to be able to take a hammering at speed.

THE CAR

The immense challenge that is the Dakar leads to the assumption that a four-wheel-drive car is needed. That's what every Dakar constructor has thought for the past 30 years. Peugeot, however, is well versed in thinking outside the box, and it's decided to follow the two-wheel-drive route. The

Peugeot and Dakar: a 30-year story

The first car that Peugeot entered into the Dakar Rally was based on a 205 T16 Group B car. The French manufacturer's latest weapon is a purpose-built machine that benefits from almost 30 years of continuous motorsport development.

Few modifications were made to the T16 rally cars for the Dakar. One disadvantage of the car was that it had a short wheelbase, and that made handling tricky over the more rocky terrain.

The 2008 DKR aims to beat its rivals by running a rear-wheel-drive layout with a diesel engine. It's unheard of at Dakar, but the Peugeot squad insists that with development, the gamble will pay off. One advantage that a two-wheel-drive layout offers is the ability to alter tyre pressure while on the move. As the Dakar switches from sandy to rocky surfaces, this is expected to be hugely beneficial.



The team has put fewer miles on the 2008 DKR than it would've liked

TECH SPEC



PEUGEOT 205 T16

1987
1.9-litre turbocharged petrol, four-cylinder, 16 valves
400bhp
Four-wheel drive
Six-speed manual
880kg
435 litres
Double wishbone, twin springs and dampers



PEUGEOT 2008 DKR

VERSUS

DESIGNED

ENGINE

POWER

DRIVE

GEARBOX

DRY WEIGHT

FUEL CAPACITY

SUSPENSION

2014

3.0-litre turbocharged diesel, straight-six, 24 valves

340bhp

Rear-wheel drive

Six-speed sequential

1280kg

400 litres

Double wishbone, twin springs and dampers

Dakar – in a rear-wheel-drive car.

“When we decided to do cross country we analysed all the technical rules,” says Famin. “They gave us the opportunity to choose four- or two-wheel drive. Two-wheel drive has one big problem, which is that you only drive two wheels. But it has three good advantages. You can have big wheels and bigger suspension travel, 460mm instead of 250mm. The car can be lighter. And the third advantage is the car can have a system to inflate and deflate the tyres while it is running.”

That final point is built into the rules, and it's crucial. It means the car can be adapted to sand dunes or rocks. Tyres are a critical part of any competition car. The ability to adjust them while

won the Dakar before. “But who is against us? The Mini is our main competitor and it is 13 or 14 years old,” continues Famin. “It's very well developed. If you follow a different concept, you may get faster quicker. It's more or less the same as in Le Mans, when we went with a closed cockpit.”

You have to dare to be different. It's a philosophy that's hard to argue against. Peugeot's problem now is pulling its innovative package together.

Back to Morocco, and the car dwarfs the other vehicles on the road into the team's base. The wheels are 37 inches in diameter. This thing is a beast, but a beautiful one. In the lunar landscape of the Errachidia Province, where the eye can see for miles and the only thing on the horizon is distant



Wheels are 37 inches in diameter to combat Dakar's rough terrain

“In 25 years the main Peugeot Sport programme has changed, but there is one constant: rally cars” BRUNO FAMIN

on the move hands Peugeot a joker card that it can play time and again once the Dakar has started.

The team has also opted to run a turbo diesel engine and again, this decision followed a close consultation with the rule book.

“The turbo is only allowed on a diesel,” says Famin. “You have a minimum range of 500 miles, and we looked at the average altitude of the stages. So we chose the diesel. The major inconvenience is weight, but you have better consumption. When you do 500 miles in a day that counts.”

A rear-wheel-drive turbo-diesel car has never

mountains, it looks right at home. The brilliant sunlight glints off the bodywork as it turns into the garage. The steering lock is incredibly tight – as is the cockpit. The packaging of the 2008 DKR is superbly engineered, every space is used efficiently and the car carries a variety of ancillary equipment, too. There are two spare wheels, one at the front and one at the back. There are skateboard-like boards to help with grip when the car gets stuck. There's emergency rations built into space under the floorpan. It's a reminder that rally raids remain a dangerous branch of motorsport. ▶



Peterhansel (right) tells fellow ex-biker Despres how it works

► The 2008 was only stopped for a few minutes before it went out again with Sainz at the wheel. The helicopter, loaded with a security guard, a doctor and a mechanic, zoomed overhead as it followed the car. And then the team got their heads down around an array of laptops. One of them showed the GPS trace of the car and it was a couple of hours later that the icon went red, showing the car had stopped.

This was a crucial test, and the frustration that it had come to an early end ripped through the Peugeot Sport personnel present. "The progress of the test was OK," says Famin. "To develop the car is quite complicated. The first level is: does the car work properly? Is the functionality there? The second is to set-up the car mechanically, and the third is endurance. The first two were quite good. We are at the endurance stage now. We've got problems but not so many. Transmission development has caused us some headaches but during this session in Morocco it is better."

The Morocco test was the third for the team, with the previous two taking place in France. Morocco was chosen because the landscape closely resembles that of South America.



"I know the race, the desert and the danger, I know how to manage it. In the car, you can drift like a bike, jump like a bike – the feeling is familiar" **CYRIL DESPRES**

THE DRIVERS

Peugeot Sport had around 15 people working on the Pikes Peak project. That's increased to around 80 for Dakar. "They're all Peugeot Sport people," says Famin. "We've only recruited some people who know how to do the logistics of a Dakar. And the crews bring a lot of the experience and information that we need."

Peugeot only had one thing in mind when it

chose its lead drivers: To pick the best. In Carlos Sainz it has a man that is a Dakar winner, but of greater importance is Sainz's experience of big Dakar projects. He's a veteran of Volkswagen's programme, which he was a part of from 2006 until 2011, before the team concentrated its efforts on the WRC. And in the second car there's Stephane Peterhansel. The Frenchman is an 11-time Dakar winner, including five in cars.

His switch to Peugeot from the Mini team was tinged with controversy. When he announced his desire to move to the French manufacturer, his existing team insisted that he gave up the lead of last year's Dakar to let team-mate Nani Roma win. Peterhansel moved over on the final day, but insists the gesture merely shows how keen he was to join his new team.

"We're starting from zero now, and that's not

Peugeot's 205 T16 took second Dakar victory in 1988



From Group B glory to Dakar dominance

"It was a dream for me to drive for Peugeot," says Stephane Peterhansel. "I remember when I did my first Dakar, it was a long time ago with a motorcycle in 1988. I remember I was in the desert and a Peugeot 205 overtook me, maybe the speed was 125mph, with Ari Vatanen's name on the side. I've remembered that for 25 years."

Many people have fond memories of Peugeot's previous efforts to win the Dakar Rally. It was born of a need to do something with the Peugeot 205 T16s when Group B was banned at the end of 1986. The cars were converted to Dakar specification, and Ari Vatanen won in 1987.

In 1988, Vatanen's defence was derailed when his car was stolen from the service park in Mali. The car was later recovered, but it was Vatanen's team-mate Juha Kankkunen who went on to win.

For 1989 Peugeot brought its 405 T16 GR to Dakar. The car had larger fuel tanks than the 205, and Vatanen took his second win. He followed it up with a third victory in 1990.

Citroen took over Peugeot's Dakar team in 1991, and developed the 405 T16 into the ZX Rallye Raid. Vatanen won a fourth Dakar in the ZX in 1991. The ZX won the Dakar three more times, with Pierre Lartigue, between 1994-'96.

Q&A



CARLOS SAINZ
PEUGEOT DAKAR DRIVER AND FORMER WINNER

Why did you join Peugeot's Dakar project?
 "Because I like new challenges. The fact that it is a new challenge with a works team is a very important part for me in deciding to leave VW and to join Peugeot for the Dakar. It's a new project and that's always very interesting. Peugeot always do things in motorsport with a lot of passion. They are very effective and they take it very seriously and this is what helped me with the decision."

Is this a long-term project for you?
 "The challenge to build a car for the Dakar is really difficult for anybody. It's even more difficult if it's a new car and then it's even more difficult again if it's a new concept. I think the minimum is for three years. To start a new project for the Dakar just for one year is impossible. Peugeot knows the Dakar and they know their motorsport. They are a manufacturer that's always been doing good things in motorsport. I'm sure they will move forward very quickly."

You have the most successful driver on the Dakar as your team-mate...
 "I'm used to being with very good team-mates, when you are with a factory team you are always with very good drivers. If you are with a manufacturer like Peugeot you always try to have the best drivers. In my rally days it was always like this. We are working very well, we are trying to help the team as much as possible and share all the information to help make the car faster every single run."

How does your Dakar win compare to your World Rally titles?
 "I think it's a different stage of your career. You cannot compare a World Rally championship. When I retired I wanted to become the first Spanish winner in cars at Dakar. It was a really nice victory [with Volkswagen in 2010] because Dakar is a really different event to win and it's a different philosophy to rally."



Sainz took two WRC titles with Toyota in the '90s



L to r: Peterhansel, Despres and Sainz have 17 Dakar wins

easy," says Peterhansel. "With the different technology, two-wheel drive, and also with the diesel engine, it's not easy. The dream is to win in the first year but we know it will be really complicated. To be realistic, to finish on the podium would be a good result."

The problem with the lack of testing means the drivers haven't been able to fully assess the capabilities of the 2008. "In the Dakar there is a lot of very hard conditions – the altitude, the temperature, the rivers," says Peterhansel. "It's hard to see all the possibility of the conditions. We need to do a minimum of one Dakar, and other races, but for the first race I'm not sure if we are completely ready. We've not had time to test the car in all the conditions."

Sainz agrees, but says he's had time to understand how to drive the two-wheel-drive car.

"Normally a two-wheel-drive, when you reach the twisty bits, it has a lot of rolling because of the suspension, so you lose a lot of time. The aim is as soon as you reach the off road, as soon as you are in the desert, you are faster than the four-wheel-drive because you still have longer suspension travel and also the big tyres and the system to inflate the tyres. This is the journey, to make this package work. This is what we need to do."

Peterhansel switched from 'bikes to cars, and the third driver on the team has done the same. Cyril Despres is a five-time winner motorcycle on the Dakar, and he wanted a new challenge. He says that switching to cars with a manufacturer team is a dream scenario. "It's a unique chance, so I grabbed it," he enthuses. "I know the race, the desert and the danger, I know how to manage it." The Frenchman says the sensation of driving the car



Focus of team and drivers is to learn in 2015 and win in 2016

is quite close to that of a bike. "You can drift like a bike, jump like a bike – the feeling is similar."

What is different is the navigation. The riders do it all on their own, whereas now he will have Gilles Picard alongside him. And the car will be a lot hotter than the 'bike, with a peak temperature during the 14 days of 60C.

That's just one of the problems the Peugeot drivers will have to contend with. It's normal for a team to play down expectations ahead of a new project. In Peugeot's case the impression is that the team really is underprepared.

"The main objective for our first Dakar with the 2008 DKR is to go as far as possible," says Famin. "And to learn. A win would be totally unrealistic. The project has developed very quickly, as is usual in Peugeot Sport."

This is really a first step into 2016. That's when the 2008 DKR will show its true potential. ❧



It doesn't go anywhere near Dakar, but the regular international motorsport curtain-raiser is a must-see event, says DAVID EVANS

Had Thierry Sabine found his way out of the south central Sahara without any problems in 1977, the previous six pages of this issue of AUTOSPORT wouldn't have happened.

James Bolton wouldn't have gone to Morocco to watch Peugeot test for a South American rally that wouldn't have been happening.

But the Frenchman did get lost on the race from Abidjan to Nice. When he was found, he did what any self-respecting 28-year-old would do. He decided to go back to the desert with a load of mates and have an even bigger race.

A year later, the first ever Paris-Dakar started. Not one to head for the shallow end, Sabine and the organisers constructed a 6000-mile route running from the French capital through north Africa and across to Senegal and across to the continent's westernmost point. Dakar.

Sabine was Dakar. But ultimately, the world's greatest motorsport adventure – the one that would never have happened without him – claimed his life when his helicopter was caught in a Mali sandstorm on the 1986 event.

It's a fitting tribute that one word conjures up everything Sabine wanted from a motorsport event: adventure, emotion, extremism, escapism, competition and camaraderie. That one word? Dakar.

WHAT'S IT ALL ABOUT?

Dakar is a true marathon motorsport event. Imagine a fortnight of back-to-back Le Mans 24-Hour races and you're starting to get close to what this thing is all about. When 414 vehicles cross the startline in Buenos Aires on Sunday, they will head west out of Argentina's capital and take the start of the first stage. That first stage is 105 miles long. About half the distance of a WRC round, done in an afternoon.

And that's a tiddler. Day eight's the one to look out for, the run from Uyuni in Bolivia to Iquique in Chile is 500 miles long. And all but 15 of those miles are flat-chat, timed against the clock. Yup, 485 miles in one go. Fastest is all that counts.

WHERE IS IT?

As far as the rally is concerned. Dakar is no longer in Africa. It's in South America. After killing four French tourists and then threatening the rally organisers, Mauritanian terrorists brought about the biggest change in the event's history.

The Amaury Sport Organisation, which also runs the Tour de France, moved it across the Atlantic. For 2009, it started and finished in Buenos Aires and looped through Argentina and Chile, with Peru and now Bolivia also getting in on the action.

There's no doubt the change has impacted on the rally. The Atacama desert might be the driest place on earth and a navigational and engineering challenge, but it's not the Sahara. It's not Africa, but the spirit of the event survives.



DPP1

Thierry Sabine's vision has ensured a lasting legacy for the Dakar

Dakar

Motorsport's real marathon

WHO DOES IT?

All sorts. Prince Albert Grimaldi did it in 1985. He was there three years after Mark Thatcher (then-prime minister Margaret Thatcher's son) managed to get himself lost for six days on it. He didn't finish. And didn't go back. Then there's rugby star Christian Califano and World Cup winning skier Luc Alphand, who won it.

At the height of its popularity, more than 600 vehicles started what is considered by many to be the ultimate motorsport challenge. All the vehicles are heavily modified for the event, with enormous suspension travel allied to multi-wheel drive and engines with plenty of torque. The Mini ALL4 Racing that Nani Roma will use to defend his 2014 win is a typical no-expense-spared manufacturer entry, using cutting-edge technology to tear up the pampas.

But then there are the home-built specials further down the order, crossing the same dunes and running the same risk. The difference is, those private crews will finish day two's 336-mile stage, drive on to the bivouac (Dakar speak for service park) and start work on their cars. Many will work through the night before strapping themselves in for another 350-mile day.

THE REAL HEROES

The cars are quick. And most will cross the Andes safe in the knowledge that they have a support truck not far behind, should they hit trouble. The trucks are registered



Support trucks take part in their own competition



Going it alone: bikers are the real heroes

and actually run in their own race. The Russian Kamaz trucks are the quickest and most popular, weighing in at 16,000kg, yet still capable of howling across the desert floor at 100mph, flat in 16th...

But no, they're not the real heroes. The real heroes are the likes of Marc Coma, who won last year's event after almost 55 hours in the saddle of his KTM motorcycle. The trucks and cars benefit from navigators who offer invaluable assistance from the seat alongside. The bikers and quadbikers do it all themselves.

Hero's hero? British lady Patsy Quick. Her first attempt ended in a military hospital with her spleen being removed following a big shunt. She got back on the bike and became the first British woman to complete the Dakar in 2006.

THE ROUTE

From the Buenos Aires start on January 4, the crews will compete on 13 days – with one rest day in Iquique (January 12). The route takes them north-west into Chile then into Bolivia for a day. They'll then run down the Pacific coast before tracking back through the Andes to Argentina's Atlantic-coast finish in BA.

WHO'LL WIN?

In short, anybody who makes it back to Buenos Aires a fortnight on from the January 4 start. Coma's favourite for his first-ever back-to-back 'bike win, but the cars will be a fascinating tussle between Mini, winners of the previous three events and returning endurance rally stars Peugeot. Roma leads the Mini squad, but fellow former winner Nasser Al-Attiyah is also well worth watching. Peugeot's top trio is headed by Mr Dakar himself, Stephane Peterhansel, who has won the event 11 times – six times on a bike and five in a car. He's joined by WRC star Carlos Sainz and Cyril Despres, another 'bike winner making the switch to four wheels. Another fascinating facet to the car fight is the different approach, with Mini running a traditional four-wheel drive car, as opposed to Peugeot's rear-drive buggy racer. ☘



Nani Roma is out to defend his 2014 victory with Mini

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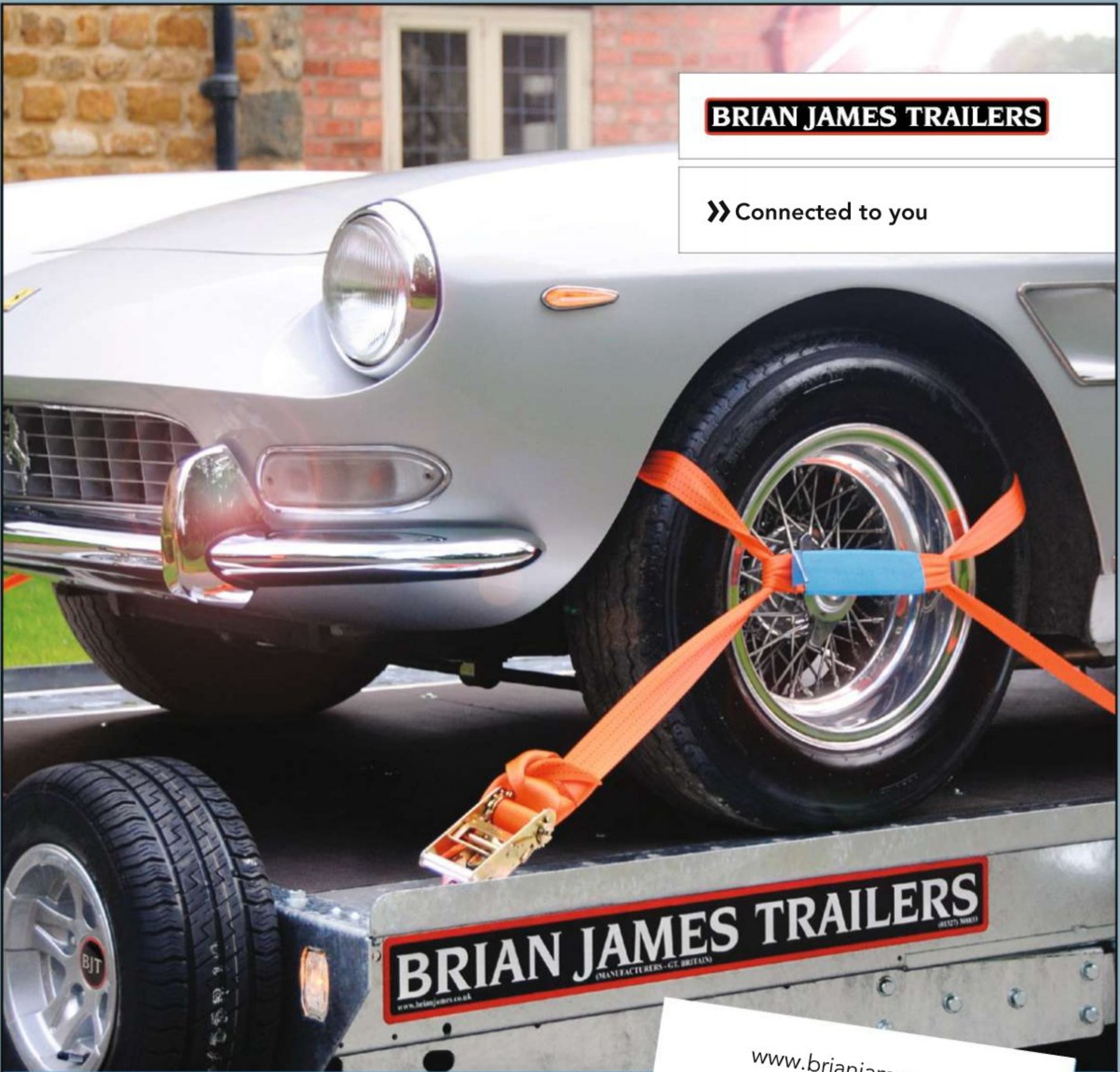
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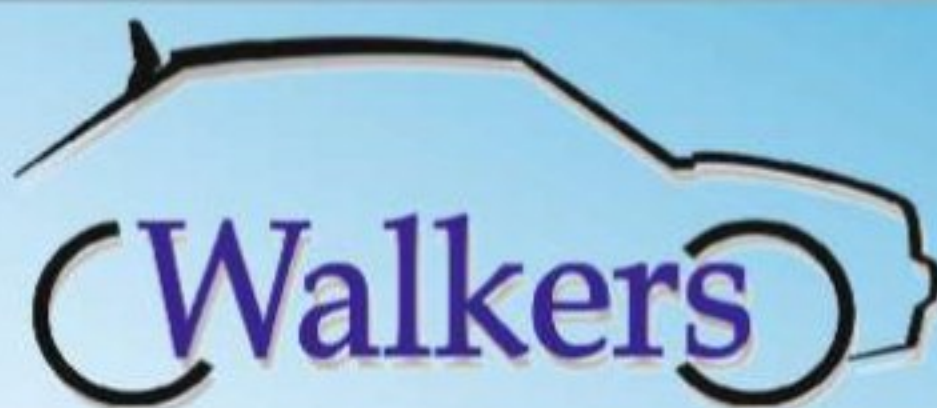


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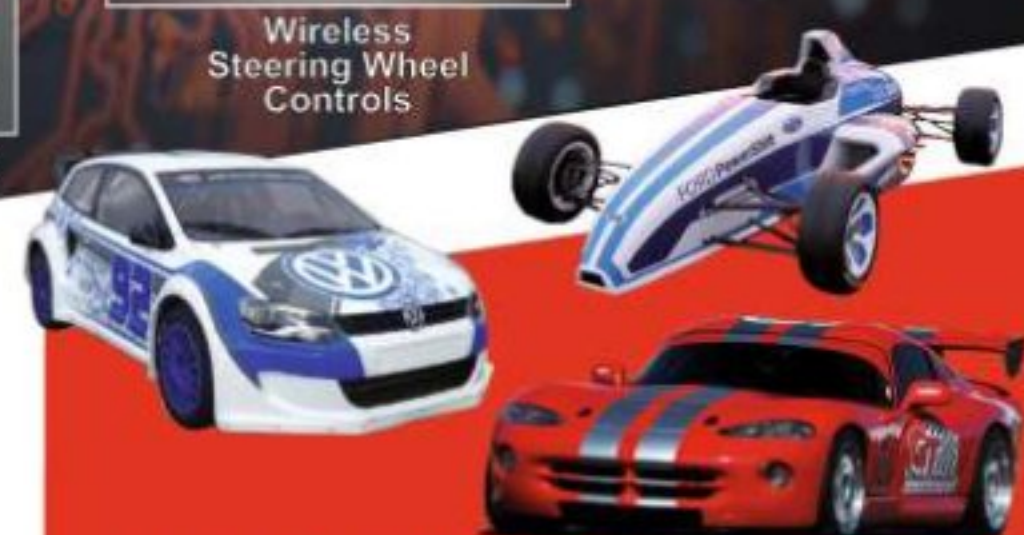


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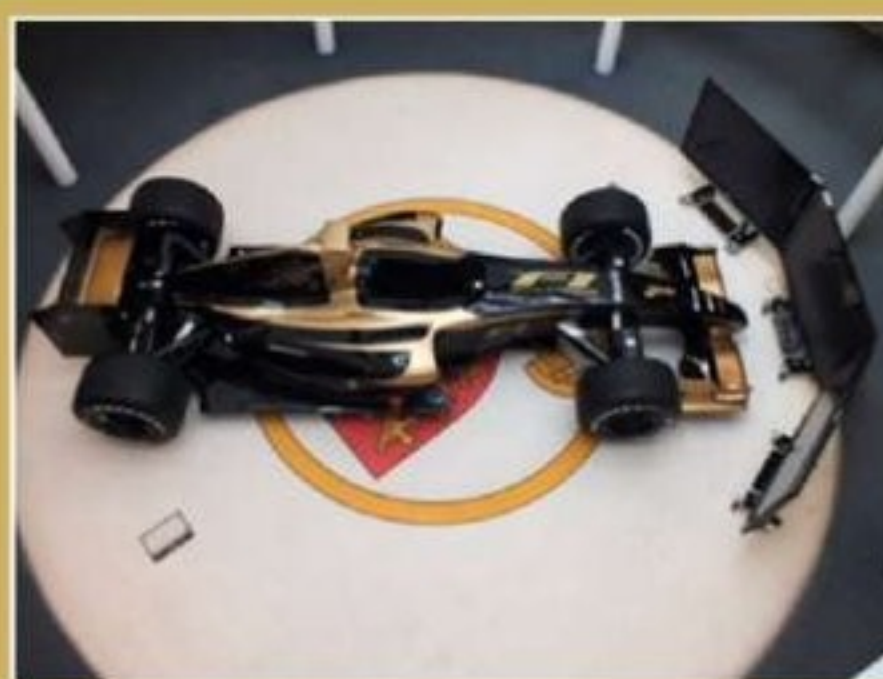
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Head restraints made mandatory

Circuit racing-wide rule to follow in 2016



Frontal Head Restraints are now mandatory in single-seater racing

FRONTAL HEAD RESTRAINTS, such as the HANS device, are mandatory in UK single-seater racing as of today (January 1 2015).

The new regulation, agreed upon last September in a meeting of the Motor Sports Council, states that an FIA-approved device must be fitted in accordance with FIA regulations for anyone driving a single-seater built after January 1 2000.

It is already mandated within BRDC Formula 4 regulations for drivers to use an FHR, but it was only previously advised in British Formula Ford (now MSA Formula) and Formula Renault BARC.

FHRs are designed to restrict the forward motion of the user's head and extension of the neck during periods of rapid forward deceleration.

The move is part of a wider safety

push that, as of next January, will make their use mandatory for all other forms of circuit racing in the UK, with the exception of period-defined vehicles.

Some championships, such as all Ginetta series, have already adopted this into existing regulations, but the Council is keen for all drivers to wear such a device and has ordered further investigations by the MSA to highlight specific benefits of doing so.

According to the MSA, research carried out by the FIA Institute claims "that FHRs represent perhaps the single biggest step forward in personal safety equipment in modern times", with Council chairman Tony Scott Andrews claiming that the FIA's conclusion "was to the effect that there is absolutely no downside to the use of an FHR".

An MSA spokesman said that the

Council now believed an FHR was "an essential safety item".

"Frontal Head Restraints have become an ever-more-accepted item of safety equipment, with many race competitors using them voluntarily, and it was therefore natural for the Motor Sports Council to consider the case for their mandatory use," the spokesman said.

"The Council recently received a presentation by the FIA Institute that showed just how effective FHRs have become in preventing serious head and neck injuries. The evidence was compelling and confirmed that FHRs should now be considered an essential safety item.

"We are always mindful of the impact of new regulations on the motorsport community, hence the graduated approach to this ruling."

SCOTT MITCHELL
FEATURES
EDITOR

scott.mitchell@
haymarket.com
@ScottMitchell89



SAFETY IS CRUCIAL IN A

sport like motor racing and, although the leading technology comes at a price, few sensible people will argue it isn't worthwhile.

The evidence that using a Frontal Head Restraint makes a clear difference is difficult to argue against, and last September the MSA decided it was time to act on it.

Why does this matter now, when the use of FHRs was already advised and some championships mandated it already? Because it's now not an option for single-seater drivers and soon it will not be an option for any circuit racer in Britain. And while any additional expense is hardly going to be greeted with cheers, this is a safety push that should be accepted and embraced.

Writing in the winter edition of the MSA's magazine, Tony Scott Andrews said he understood that the costly nature of FHRs could make it seem an "unreasonable imposition of another expense and yet another obstacle for entry into the sport". The bottom line, though, to paraphrase the MSA Council chairman, is that safety is paramount.

There's a popular arrive-and-drive karting chain that uses ex-Formula 1 driver Martin Brundle for its safety video, and he talks of the importance of the proper racewear. If you've got a two-bob head, he says, get a two-bob helmet.

Not everybody will listen because for most, cost is the ultimate guiding factor. And that's fair enough. It would be redundant to ask if safety came with a price but, while you should always act within your means, you do get what you pay for. And safety should never be taken for granted.

British clubs

£580k rebate for British organising clubs

BRITISH ORGANISING CLUBS will receive percentage rebates on event permit fees and insurance from the Motor Sports Association totalling £580,000.

The MSA has approved a 50 per cent rebate of event permit fees paid in 2014, amounting to £270,000,

and a 16 per cent return of insurance fees worth £310,000.

MSA chief executive Rob Jones called the rebates, which follow freezes in event permit, insurance and licence fees for National B level and below, an "early Christmas present".

"We recognise that some clubs may

be struggling to balance their books and we are very pleased to be able to make this refund this year," he said.

"We hope this will be welcome news among event organisers and will go some way to thanking them for continuing to put on events in challenging financial times."





Hughes will switch from ART to Koiranen GP

Formula Renault Eurocup

Hughes to Eurocup as more Brits line up

BRITISH SINGLE-SEATER ACE Jake Hughes will make a full-time switch to the Formula Renault Eurocup in 2015.

The 2013 BRDC Formula 4 champion has committed to the Eurocup after making sporadic outings alongside his podium-finishing Northern European Cup campaign in 2014.

Former McLaren AUTOSPORT BRDC Award finalist Hughes, 20,

will join Koiranen GP in the Eurocup and ALPS series, both of which were won in 2014 by Koiranen driver Nyck de Vries.

"Testing has gone really well and the detail that the team consider is amazing," said Hughes. "I believe that I have the best chance of competing for the titles and that's what I'm aiming for."

Ben Barnicoat, one of the 2014 Award finalists, has already had his

Eurocup graduation confirmed with Fortec, which ran him to the NEC title in his debut single-seater campaign, and could team up with 2013 NEC champion and Award winner Matt Parry.

Parry endured a disappointing debut Eurocup campaign in 2014 and is keen to return, though may yet graduate to a higher category.

"I didn't have a great year last year and I wouldn't really want to

leave the championship without succeeding in it," said the Welshman, who will no longer be a part of the Caterham Formula 1 team's junior set-up.

Another Award finalist, British Formula Ford runner-up Harrison Scott, is also eyeing a move to the Eurocup, having tested with AVF at the end of last year.

"It's definitely on my radar," he said. "It's all down to budget."

Formula Ford 1600

Irish ace McMullan gets career lifeline with award

FORMULA FORD 1600 ACE JONNY McMullan will contest the All-Ireland Championship next season and the flagship races in Britain after clinching the Motorsport Ireland Young Racing Driver of the Year award.

McMullan, 22, from Newtownabbey in Northern Ireland, was named the winner of the Dunlop Sexton Trophy last month, which includes a full programme in a Bernard Dolan Motorsport-run Motorsport Ireland Van Diemen.

McMullan, who finished as runner-up in this year's Formula Ford Festival, will also contest the Martin Donnelly and Leinster Trophy events in Ireland, the Festival, the Walter Hayes Trophy and selected rounds of the National FF1600 Championship.

"It's an amazing boost to my career," he said. "I'd only done three events this year due to a lack of funding, so to have such a full season laid out for me before January is so reassuring."

"It allows me to go out next year and give it my all to get some good results on the board."



McMullan gets Motorsport Ireland drive in FF1600

BRDC Formula 4

Winter winner Palmer eyes BRDC F4 title tilt at HHC

BRDC FORMULA 4 WINTER Series champion Will Palmer will return to the main championship for a second season in 2015.

Palmer won two races in the main series before rounding out his maiden year of single-seater racing with the winter title. The 17-year-old will remain with the HHC Motorsport team and admitted he will be considered a favourite for the title.

"I think naturally there's a lot more pressure than this year," he said.



Palmer won the F4 Winter title

"There is more expectation but I won't focus too much on that. I'm sure I'll be up there given I was there or thereabouts in my first year."

Palmer also revealed a possible European Formula Renault race at Silverstone was an option.

"It depends on how F4 is going but we would look at doing a one-off race," he added. "I would love to be a McLaren AUTOSPORT BRDC Award finalist, and it would be very helpful to have experience of a faster car."

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Porsche Carrera Cup GB

Carrera Cup return possible for Webster amid entry influx

PORSCHE CARRERA CUP GB

champion Josh Webster could return to the championship in 2015, alongside a number of new teams and drivers.

Webster became the first driver to win the Porsche title in his scholarship season last year, and although the 20-year-old has not agreed his 2015 programme he has said a second season in Britain would be appealing.

"It would be cool to run the number 1 and it would be very interesting to see



Webster may make return

what the competition would be," he said. "From every aspect it looks like it will be mega and a big improvement on this year. Retaining the title with more cars on the grid would give it more prestige. It'll really spice it up if there were several drivers winning races and three or four fighting for the title."

Champion team GT Marques will return to the Carrera Cup next season having skipped 2014 following its '13 triumph with Michael Meadows, while the Juta Racing squad, which ran Jonas Gelzinis to second behind Meadows in '13, will also rejoin the grid with the Lithuanian's younger brother Ignas.

G-Cat Racing and a team led by GT Cup racer Iain Dockerill will compete in the series for the first time. Redline Racing, Team Parker, Parr Motorsport and In2 Racing will all return.

Super Touring

Super Touring on BTCC bill

THE HISTORIC SPORTS CAR CLUB'S Super Touring Car Trophy will support the British Touring Car Championship at Rockingham in 2015.

The series, for tin-tops of the 1970 to 2000 era, joined the BTCC package at Oulton Park this year and attracted 26 cars. The Rockingham BTCC round, on September 5-6, will host the Super Touring finale, while the series will also

visit Donington Park (May 2-4), Brands Hatch (May 24-25) and the Silverstone Classic at the end of July.

Series organiser Jonny Westbrook said: "It's no secret that these cars are difficult and expensive to run so we focused on quality not quantity. Obviously it's a great privilege to be invited back and we are very grateful to [BTCC boss] Alan Gow and [BTCC manager] Dan Mayo."



Super Touring will rejoin BTCC package

Rallying

Donington gets rally slot

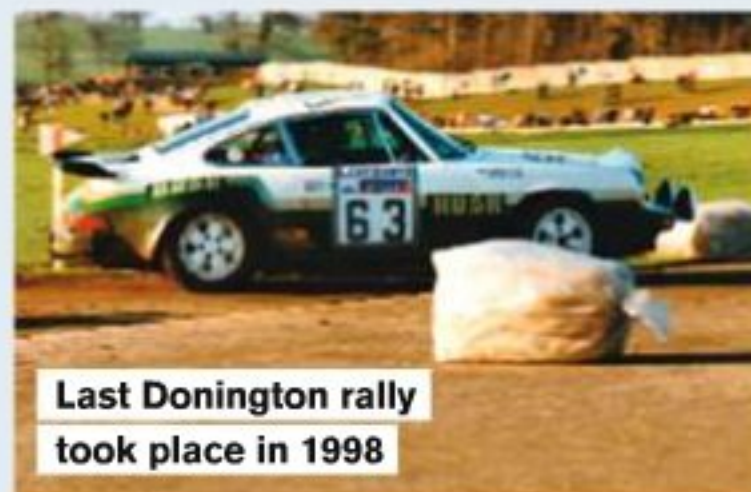
COMPETITIVE RALLYING WILL BE held at Donington Park for the first time this millennium when it stages the Dukeries Rally in October.

The East Midlands circuit last hosted a rally in 1998 but has finalised an arrangement with the Dukeries Motor Club for an asphalt rally on October 25.

It comes shortly after being granted planning permission to host two days of national rallying each year from 2015 onwards. A 90-car entry is expected for the Dukeries Rally, which will last 55 miles across eight stages.

Donington managing director Christopher Tate, who hopes national

rallying will "become a regular fixture" at the circuit, said: "We are very pleased to be able to confirm a first event, the Dukeries Rally in October, so soon after receiving our planning permission to host national events from 2015 onwards."



Last Donington rally took place in 1998

HUMBLE PYE

The voice of club racing



Pye is looking forward to another season of top British GT action

The countdown to the new season is gathering pace

With the shortest day behind us and having crossed the New Year milestone today, the countdown to the 2015 season is gathering momentum. Jenson Button's reappointment to McLaren has completed the Formula 1 line-up and brought personal joy – I was impressed when I saw him race first as a lad in the Gulf TVS Kart Superprix at Dorset's Clay Pigeon track and mightily so in the 1998 McLaren AUTOSPORT BRDC Award trials – but I'm intrigued also at prospects for the 'club' and historic racing I follow.

Amid keynote restructuring of the national single-seater ladder, the launch of the MSA Formula (not FIA F4, due to the foresight of Jonathan Palmer, who acquired the F4 title from the 750MC, its progenitor in the 1960s, then registered it against the prestigious BRDC name) has won headlines. While there appears to be strong support for both, I don't believe aspiring pros should avoid direct competition with their peers. Aligning BRDC F4 with British GT and Ford-backed MSA Formula with BTCC is good news for drivers, but underlines the divide.

That the GT phenomenon remains at the top of its game is evidenced by weekly announcements of existing equipes switching cars or new squads joining the multi-marque fray. Another with a strong engineering base is set to break cover as a GT4 contender, perhaps at next week's AUTOSPORT International?

At grass roots level, there is a seismic shift too. Among myriad tin-top series, several (like the 750MC's Stock Hatch, in which the dominant Citroen Saxos have thinned dramatically, ironically as bargain basement Classic Stocks

enjoy a resurgence) are suffering. More modern, robust and economical options such as the brilliantly promoted BMW Compact Cup, Civic Cup (which needs Honda's name on it) and Renault Clio 182 championships on the same ticket represent exceptional value.

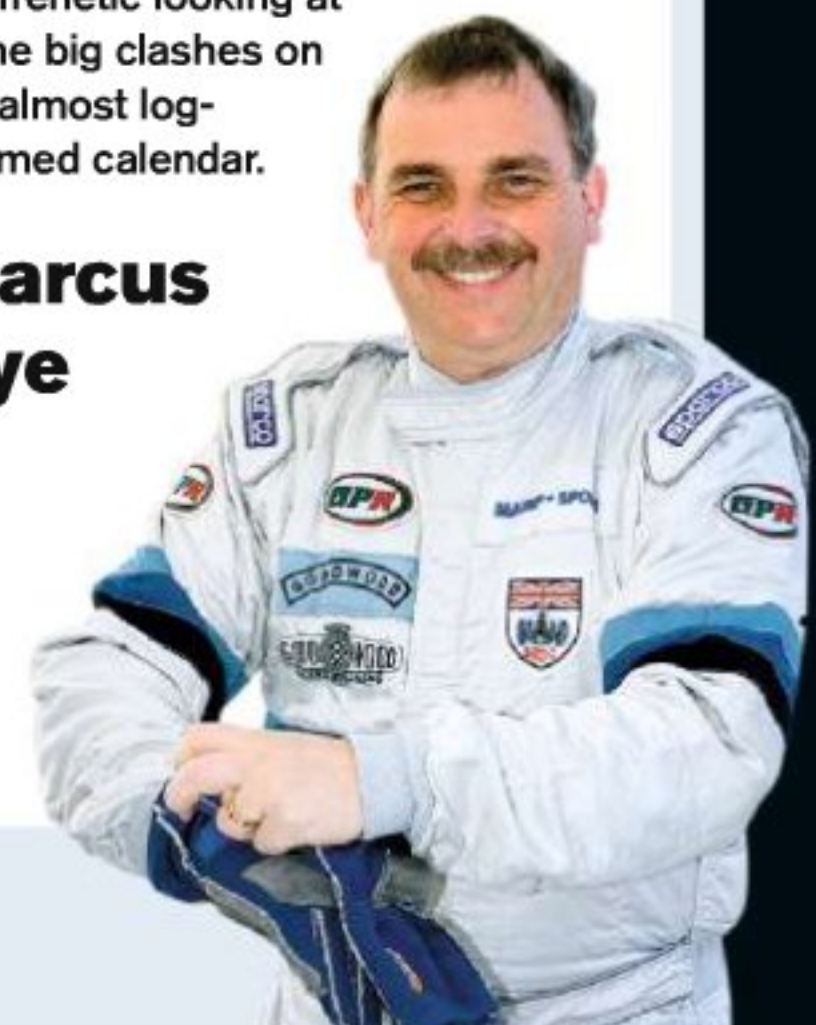
On the historic front, the HSCC's new WEC Revival – for Pre-'80 Sports Prototypes and Pre-'85

"I'm intrigued at the prospects for the national, club and historic scene"

Sports 2000s – will be photogenic and deserves to attract the competitor numbers to succeed. And while contemporary F3 has gone, Goodwood's 1000cc race at March's 73rd Members' Meeting will do more than anything next term to buoy the movement.

Whatever your preferences, I wish you a safe and fun-packed New Year. After recharging my batteries it'll be another busy one – a bit too frenetic looking at some big clashes on the almost log-jammed calendar.

Marcus Pye



TAPPING INTO THE TIN-TOP MARKET

The 750 Motor Club's ethos is affordable motorsport, and its 75th anniversary year was no different. **SCOTT MITCHELL** sampled two of its new-for-2014 offerings





The Civic Cup burst into life at Brands Hatch

CIVIC CUP

The arrival of the Civic Cup onto the 750 Motor Club programme package in 2014 was the completion of a two-year journey for series organisers.

After spending 2013 on the Time Attack bill and previously running standalone on some random BRSCC events, joining the 750MC has provided the Civic Cup with its chance in the national-motorsport spotlight – something it has grabbed with both hands.

Generally the grids have been very strong and, while driving standards were an early concern, it has been hugely popular within the paddock, with new drivers joining throughout the season and a Stock Hatch influx likely for 2015.

Success in 2014 has given way to the series becoming an MSA-ratified championship next season, when it will become the Civic Championship. But what made it start life on the front foot?

While a one-make championship is far from unique in club racing, the Civic Cup's multi-model construction has been a hugely positive factor. That FNs from 2010 struggle to match, let alone beat, models harking back to the late 1990s is one of its best assets – variety is the spice of life, after all.

Minor performance balances allow the 1600cc and 2000cc variants to do battle on track evenly – in 2015 each will be recognised as independent classes – and of the top-10 unofficial drivers' standings, there were five

different Civic variants.

The differential, inductions, rear rollbar, wheels and suspension were some of the areas where the Civics could be upgraded initially, which indicates it's not quite the base-level, first-timer series our man expected, but equally it isn't a free for all.

For 2015, suspension will become controlled, supplied by Yellow Speed, while the removal of ABS will become mandatory after mixed use between competitors this season.

750MC competitions manager Giles Groombridge says this is crucial for the category's future, not just as part of the club, where it has benefited hugely from added exposure, but in terms of making it a sustainable series.

"It's never going to develop

into an arms race," he says. "That kills some classes off."

Series backer Luke Sedzikowski agrees and reckons, minus labour, that having bought a base car at £3000 you could add the relevant performance and safety parts for another £12,000. He has a clear ambition for the series in the future, and this year it will run as a full championship.

"Going forward it would be nice if this was the Honda equivalent of the VW Cup. It has that same level of variance.

"It's cheap racing if you do it right, from the start. Arrive and drive, you get what you pay for – it's all going in the right direction. Keeping it controlled is a fine line but it's a fine line that works."

AUTOSPORT says... SCOTT MITCHELL

I underestimated the Civic, the series and the opposition. The assumption heading to Cadwell Park, where quite a few drivers were in their first year of racing, was this was an entry-level series.

That was a mistake. I expected to be at the back of the grid – Cadwell was my second time in a car and I'd never driven the circuit – but I also expected to make serious progress, and while that came in terms of laptime it did not in results.

Rookies have entered this series, that much is true, but the level of competition is much higher than I expected. The effort being applied in terms of car development and testing exceeded what I had

anticipated for a one-make club category.

The Civic Cup is not the most obvious budget series, but then strictly speaking it's not a 750MC category, more one that has been brought into the club's umbrella. The Clios are much more a means to the cheap-and-cheerful ends. But the Civics still adhere to the 750MC's affordable-racing philosophy, with the extent of the financial damage (like most series) defined by how much you want to push the boat out.

The car, obviously, is the expensive bit, but the arrive-and-drive packages range from £1500 to £3000. You get what you pay for and the Revo Works service was exemplary all weekend – a good atmosphere within the awning and a car meticulously maintained by Ian Crocker. Their service is the higher end of the spectrum, but it's worth the cost – an incredible attention to detail that went beyond the average racing experience.

My EP3 was a hire car not owned by Revo Works, which is undertaking a sizable expansion for 2015, though it still made big improvements. The car was underpowered but brilliant to drive, with



Mitchell found the Civic to be a well-developed car...

the limited-slip differential working hard around the Lincolnshire track. The car has a good neutral balance, and we didn't experiment with set-up too much because most of the time was to be found in me.

The lack of ABS means confidence is key, something I was in short supply of, but nobody will be allowed to use such technology in the series this year, which brings driver skill to the fore.

What is crucial is that the series is not a spending war. My team-mate for the weekend, Andrew Gaugler, paid around £7500 for his EP3-model Civic and

doubled that expense in upgrades. This is top-level spending within the series, with the championship's best-turned-out team.

Those within the paddock have endeavoured to stamp out poor driving standards, and the result was a much happier grid by the end of the season. There is very much a sense of ease among drivers.

The impression from Cadwell was a burgeoning category with potential to become the club equivalent of the VW Racing Cup. This series should thrive in 2015.



...but couldn't live with frontrunners

CLIO 182 SERIES

Championships for Renault Clios are a popular commodity in Britain. As new models enter the flagship UK category, so older cars find homes across various club categories.

The newest of these series, the 182 category based on the MkII Cup car, first appeared properly in the 750 Motor Club in 2014. It had been part of the Stock Hatch grid the year before, winning outright on occasion, but this was not to the benefit of the series on it was encroaching or its own prospects for a bright future.

A standalone grid duly beckoned, and it hit the ground running last year with grids in the mid-teens. And the appeal is easy to see.

Tight control is at the forefront of the series. Series sponsor K-Tec Racing supplies the spec ECU and suspension. The Team Dynamics-supplied wheels come at a discounted price from Rimstock, Dunlop is the control-tyre supplier and the brakes and transmission must come as standard. There is no option for a limited-slip differential and the chassis has a six-point bolt-in rollcage only. Keeping costs down is at the forefront of the regulations.

This is a series in which ease of access – the 750MC mantra – is put ahead of car performance. The Clio is a proven car, though admittedly in slightly racier trim, and has always been a good balance between the entry-level car needed for new drivers and something that rewards the finesse of a more experienced racer.

The 182 Series is the not the first example of a Clio category for converted road cars, with the road-car



class of the BARC-run Clio Cup Series offering the same for the 197 Roadsport model. But while the 182 Series is slightly more basic, and slightly older, it's also a fair sight cheaper. A build is estimated at as little as £5000 for regulation-compliant racers, mainly because of the low-cost nature of the car itself and the minimal modification required from the original production specification.

If this was an end-of-year school report, you'd have to give the Clio 182

Series a solid B. Its grids were never outstanding, but the positive was that numbers held firm at trickier venues (Cadwell Park is a trek for a lot of competitors for one day of racing) and by the end of the season it had gained strong interest.

Matt Fincham ran two cars this year and is looking at three for next season on an arrive-and-drive basis whereby the car, plus race entries, licence fees, tyres and running costs are covered for £12,500 for a full season's racing.

"We can build the car to the driver for not a lot of money at all," explains the ex-Stock Hatch ace, whose Go Racing operation will also look to run trackday experiences with the cars to try to bring more drivers into the series. "The Clio is a good starting point for new drivers but also for more experienced ones.

"It's pitched for the people who don't want to spend money developing the cars. It really is aimed at affordability and accessibility and is about the best driver winning."

AUTOSPORT says...

SCOTT MITCHELL

Jumping into the Renault for the first time on raceday was not the ideal preparation, and I spent most of qualifying wide-eyed – the 182 is incredibly light at the rear, and moved around like nothing I've driven before!

That said, there's a reason I was able to qualify seventh in this yet struggle in the Civic. Part of that was down to my Friday-testing advantage (I slipped back as the day progressed!) and part of it was the car, with the Clios identical compared to a chunky performance disadvantage in the Civic.



The biggest positive for me was that the 182 inspired much, much more confidence. This is the entry-level racer I expected on my way to the east of England. It had the necessary elements to inspire confidence but needed a refined touch to get the most out of it.

Anti-lock braking means you can push and push up to the limit without fear that you'll slew out of control the first time you throw down the anchors. The fact that the car is so light means that, even on the twists and turns of Cadwell, you feel completely in control – the weight transfer isn't the be-all and end-all.

The other extremely positive asset was the grip it has on turn-in. Yes, it runs very loose, but once you accept that and start flinging it around with a greater measure of control it suddenly feels like a big kart. When the tyres are cold it's a handful, but the car doesn't feel like it's going to bite particularly hard. That's why this stood out for me as the kind of entry-level option for aspiring tin-top drivers.



Sadly I bottled both starts, but raced well enough to spend both encounters scrapping. I had a problem with the fronts going off in the second race and plummeted in the final half-dozen laps, but that was mainly down to my inability to adapt to driving with a limited-slip differential. That hurt, definitely, but it's an additional cost, so it's easy to see why it's been blocked.

The car is, as you might expect, not as refined as the more modifiable Civic. But that's to the series' benefit, and that of the budding club racer. Matt Fincham and his Go Racing set-up was the epitome of a professional club team – fun, friendly and very good at the task at hand. Numbers are looking good for 2015, when hopefully it will thrive.



THE HISTORY & MAKE-UP OF THE

While it is commonplace to think of bodies like the British Automobile Racing Club, British Racing and Sports Car Club and MotorSport Vision as Britain's leading lights in national motorsport, due to the sheer breadth of competition they organise, there are players on the club scene that have at least as big an impact, if not even bigger.

The 750 Motor Club was formed in the spring of 1939, and one of its earliest achievements – putting together a club meeting at Silverstone in 1949 – was born out of its position as one of many small and, to a large degree, insignificant clubs of the mid-20th century.

Its initial raison d'être was to promote the use of the Austin Seven in road and trials events, a car that provided the basis of the club's first and still-running series, the 750 Formula. While the Second World War put all

motorsport on the backburner, the 750MC continued to meet before making two breakthroughs at the end of the decade.

It was under the guidance of chairman Holly Birkett, whose name lends itself to arguably the finest club event of the year even in 2014, that the 750MC began to make greater waves. The club developed a two-seater sports-racer powered by the Austin Seven's 750cc engine – you see where this is heading – and based around the Seven chassis.

The Silverstone meeting is its other notable early feat. Sharing a desire among smaller clubs to run a meeting at the home of British motor racing, it helped coordinate the Eight Clubs Meeting, breaking the stranglehold of the traditional powerhouses of national racing.

The club is now a national organisation, with a board of directors and 24 semi-autonomous self-managing centres around the country. That's how the club

describes itself, anyway. But to British competitors, budding engineers and club aficionados, the 750MC is seen in a simpler light: a bastion of affordable motorsport, one of the UK's most important bodies.

"The club itself is growing year on year," explains competition manager Giles Groombridge, who joined the 750MC in 2012. "We've worked hard to attract new members and bring in new championships.

"The core ethos has always been to make motorsport accessible and affordable, that's what we've really tried to do. We don't see membership as a tax on racing and have a flat £20 registration rate.

"We're trying all sorts of things to bring people in from the trackday market in the past couple of years, all with the aim of getting our message out that racing can be affordable; something that novices can make that transition into."

The 750MC does not have a silver

bullet. But Groombridge reckons it does have an ace up its sleeve. He does not shy away from the gap in quantity the 750MC has to the likes of the BRSCC, BARC or MSVR. But it's not trying to compete on that scale, it is targeting club racers rather than national championships and the likes. With that market in his mind, the club's place in national motorsport is clear.

"I think we are the leading club," he says after a pause. "Not necessarily on size, but we are universally strong across the board. We have eclectic grids and short, sharp racing.

"The other thing that makes us stand out is we still have a lot of engineer-led formulas, which other clubs no longer have. I think we're looking at real success and sustainability with our series."

750 MOTOR CLUB SERIES

THERE ARE A VARIETY OF CHAMPIONSHIPS RUNNING UNDER THE 750MC UMBRELLA. HERE'S A QUICK LOOK AT EACH OF THE BUDGET SERIES



750 FORMULA Sports-prototype cars often built by enthusiasts



750 TROPHY The club's historic series with careful guidelines for compatibility



COMPACT CUP Tightly controlled BMW E36 Compact-based series launched last season and has enjoyed stellar grids and a good quality of driver in year two



BIKESPORTS Rorty series is for motorbike-engined sports-racers



CLASSIC STOCK HATCH Retro brilliance for pre-'92 hatchbacks



FORMULA VEE Arguably the cheapest UK single-seater series



LOCOST 'Build-your-own-sportscar' series for kit-car enthusiasts



MR2 Open to all normally-aspirated versions of the Toyota MR2



MX5 CUP The reincarnation of what was once the most popular UK series



RGB The slightly tamer, road-going cousin of the Bikesports category



ROADSPORTS An endurance series for two-door production sportscars



SPORTS SPECIALS Production kit-cars, Caterhams, Westfields and more



STOCK HATCH The Citroen Saxo VTR-dominated series for hatchbacks

ALL PICS: JONES; WALKER



Teddington Studios, Broom Road, Teddington, Middlesex TW11 9BE, UK.
Tel: +44 (0) 20 8267 5804 Fax: +44 (0) 20 8267 5922
E-mail: autosport@haymarket.com Website: www.autosport.com

EDITOR
Edd Straw ext.5887
edd.straw@haymarket.com

DEPUTY EDITOR
Marcus Simmons ext.5807
marcus.simmons@haymarket.com

GROUP F1 EDITOR
Jonathan Noble ext.5810
jonathan.noble@haymarket.com

F1 ASSISTANT EDITOR
Ben Anderson ext.5425
ben.anderson@haymarket.com

FEATURES EDITOR
Scott Mitchell ext.5370
scott.mitchell@haymarket.com

EDITOR AUTOSPORT.COM
Glenn Freeman ext.5309
glenn.freeman@haymarket.com

DEPUTY EDITOR AUTOSPORT.COM
Matt Beer ext.5811
matt.beer@haymarket.com

MANAGING EDITOR
Peter Hodges ext.5903
peter.hodges@haymarket.com

EXECUTIVE EDITOR
Stuart Codling ext.5835
stuart.codling@haymarket.com

RALLIES EDITOR
David Evans
david.evans@haymarket.com

ART EDITOR
Lynsey Row ext.5914
lynsey.row@haymarket.com

SENIOR DESIGNER
Michael Cavalli ext.5381
michael.cavalli@haymarket.com

PHOTOGRAPHS
LAT Photographic

GROUP PICTURE EDITOR
Peter Mills ext.5918
peter.mills@haymarket.com

AUTOSPORT.COM TECHNICAL TEAM LEADER
Geoff Creighton
geoff.creighton@haymarket.com

AUTOSPORT.COM DEVELOPER
Tomasz Trznadel
tomasz.trznadel@haymarket.com

OFFICE MANAGER
Joanne Grove ext.5804
joanne.grove@haymarket.com

SPECIAL CONTRIBUTORS

Gary Watkins	Mark Glendenning	Alan Eldridge
Henry Hope-Frost	Dieter Rencken	Pablo Elizalde
Marcus Pye	Gary Anderson	Andrew van Leeuwen

CORRESPONDENTS

ARGENTINA Tony Watson	ITALY Roberto Chinchero	David Phillips, Robin Miller, Jeremy Shaw
AUSTRALIA Phil Branagan	JAPAN Iiro Takahashi, Len Clarke	UK & EIRE Jack Benyon, Jonathan Crawford, Dan Cross, Kerry Dunlop, Leanne Fahy, Paul Healy, Linda Keen, Jamie Klein, Mark Libbeter, Stephen Lickorish, Marc Orme, Graham Road, Hal Ridge, Peter Scherer, Ian Sweeney, Oliver Timson, Ian Titchmarsh, Matt Upton, Eddie Walker, Richard Young
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FINLAND Esa Illainen	SPAIN Raimon Duran	
GERMANY Rene de Boer	SWEDEN Tege Tornvall	
GREECE Dimitris Papadopoulos	USA Jonathan Ingram,	

ADVERTISING
Tel: +44 (0) 20 8267 5389
Fax: +44 (0) 20 8267 5850
E-mail: autosport.ads@haymarket.com

AD PRODUCTION
Tel: +44 (0) 20 8267 5588 Fax: +44 (0) 20 8267 5320

DISPLAY SALES MANAGER
Martin Lee ext.5389
martin.lee@haymarket.com

DISPLAY ADVERTISING
Gary Lee Hoebeek ext.5576
garylee.hoebeek@haymarket.com

CLASSIFIED ADVERTISING
James Hunter ext.5367
james.hunter@haymarket.com

AUTOSPORT.COM SALES MANAGER
Fiona Bain ext.5551
fiona.bain@haymarket.com

AUTOSPORT.COM AGENCY ACCOUNT MANAGER
Jessica McFadyen ext.5820
jessica.mcfadyen@haymarket.com

ONLINE ADVERTISING
Leah Minns ext.5846
leah.minns@haymarket.com

SPECIAL PROJECT SALES
James Robinson ext.5384
james.robinson@haymarket.com

ADVERTISING DIRECTOR
Matthew Witham

LICENSING DIRECTOR
Jim James

PRODUCTION MANAGER
Ailsa Donovan ext.5639
ailsa.donovan@haymarket.com

PRODUCTION CONTROLLER
Abbey Gunner ext.5388
abbey.gunner@haymarket.com

SUBSCRIPTIONS
UK 0844 8488817
OVERSEAS +44 (0)1795 592 974
EMAIL autosport@servicehelpline.co.uk

BACK ISSUES
Tel: 0844 8488817

MARKETING MANAGER
Karen McCarthy ext.5658
karen.mccarthy@haymarket.com

LICENSING AND SYNDICATION
LICENSING MANAGER
David Ryan ext.5024

MANAGEMENT
GROUP DIRECTOR
Tim Bulley

GROUP COMMERCIAL DIRECTOR
Ben Guynan

GROUP EDITOR
Anthony Rowlinson

PUBLISHER
Stuart Williams

PUBLISHING MANAGER
Samantha Jemson

SPECIAL EVENTS MANAGER
Laura Coppin

DIGITAL SPECIAL PROJECT MANAGER
Simon Strang, ext. 5093
simon.strang@haymarket.com

DIGITAL PRODUCT MANAGER
Simon Grayson, ext. 5346
simon.grayson@haymarket.com

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THIS WEEK

LETTERS • BEST PICS • LATEST GEAR • ON TRACK & SCREEN • ONLINE

What you think of the motorsport news of the past week



Jarvis (middle row, right) joins Audi's WEC line-up

Cock-a-hoop over Jarvis

I have followed the career of Oliver Jarvis since he was in Formula Renault, so I was delighted to see him chosen to replace Tom Kristensen in the Audi in 2015.

He's been harder to keep track of since he stopped racing in the DTM, so it's great that there will be the chance to watch him in the full World Endurance Championship.

What does it say for this country that

even with Allan McNish retiring, and Anthony Davidson on top of the world, there are still drivers like Jarvis coming through into the front line of sportscars? We must be doing something right.

Give it a few years, and I wouldn't be surprised if Oliver joins Davidson and McNish as champion.

Alan Stevens, by email

Who would wish to be Ron Dennis? Not only does this veritable captain of British industry face the prospect of having to raise millions of pounds to regain overall control of his company, it seems that he must also be held accountable to the whims of the braying Twit-mob.

I'm sure he had plenty of reasons for taking his time over deciding which drivers to hire for 2015 and beyond – reasons which usually come in large denominations and with the likeness of various national luminaries printed on them. Logically, solid business considerations must take precedence over the constant need for stimulation required by those who spend their lives on 'social media'.

It seems that we live in the era of the armchair expert, in which

the ownership of a computer or smartphone entitles one to seize one's virtual pitchfork and rush to join any assembly on Twitter or some such platform *du jour*. No doubt Mr Dennis has other calls on his time beyond appealing to the internet opinionati.

More power to your elbow, Ron.

Alan Smith
London

As always, it was great to read AUTOSPORT's pick of the top 50 drivers of 2014, but I can't believe the world rally champion is only fifth. Sebastien Ogier! Fifth?

He had to face a difficult challenge from his improving team-mate, Jari-Matti Latvala, and showed himself to be the worthy heir to Sebastien Loeb. How you can place four drivers ahead of him is beyond me.

For a long time, rally drivers have been looked down on, but the quality of his performances should guarantee him a place in the top three.

Do you really think that a DTM driver, good as Marco Wittmann was, deserves to be above the world rally champion?

Mark Baker
By email

I have always admired

AUTOSPORT magazine, and your decision to make Daniel Ricciardo your top driver of 2014 was correct (December 18-25).

He was the only thing of interest in F1 2014, and would have won the championship quicker in the Mercedes than any other driver.

Nice to see the right point of view!
Garry Robin Simpson
New Milton, Hampshire

In pictures

Images around the globe, including two genuine legends of the sport



FAREWELL TO A SUPERSTAR
The retiring Tom Kristensen was hailed by his colleagues at Audi's end-of-season celebration, held the week before Christmas

FORMULA E ON SHOW AT WESTFIELD
Two e.dams Formula E cars – one full size, one a three-quarters replica – appeared at Westfield ice rink before Christmas



GAVAN/GETTY

MOSS LIGHTS UP MARKET
London mayor Boris Johnson joined the legendary Stirling Moss to turn on the Christmas lights at Shepherd Market last month



JAS HONDA TCR CAR REVEALED
The Honda Civic that will run in the newly created TCR tin-top series has been revealed. Built by JAS, it will be run by West Coast Racing

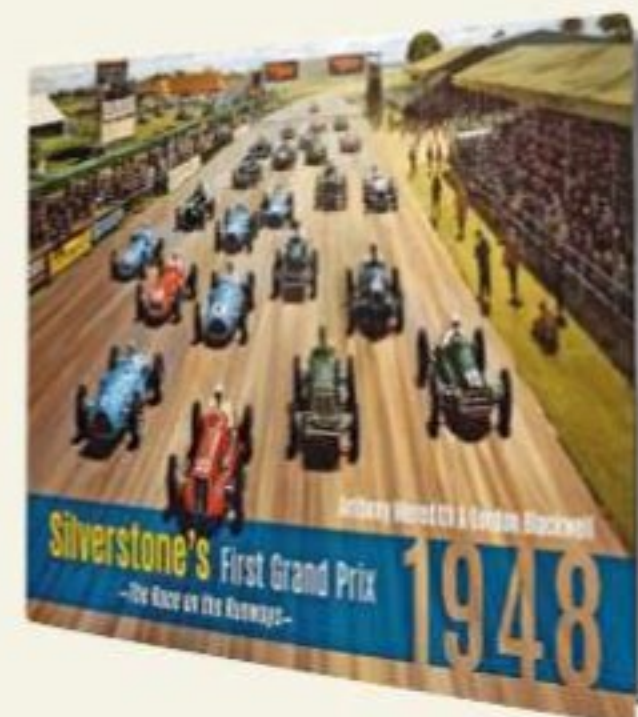


In the shops

Desirable new releases

SILVERSTONE 1948 BOOK

£14.99 – autosport.com/shop
The Race on the Runways relives, with superb archive pics, the first post-war British Grand Prix held at the ex-bomber base in Northamptonshire and tells the stories of the participants both before and after what was a very significant moment for British motorsport.



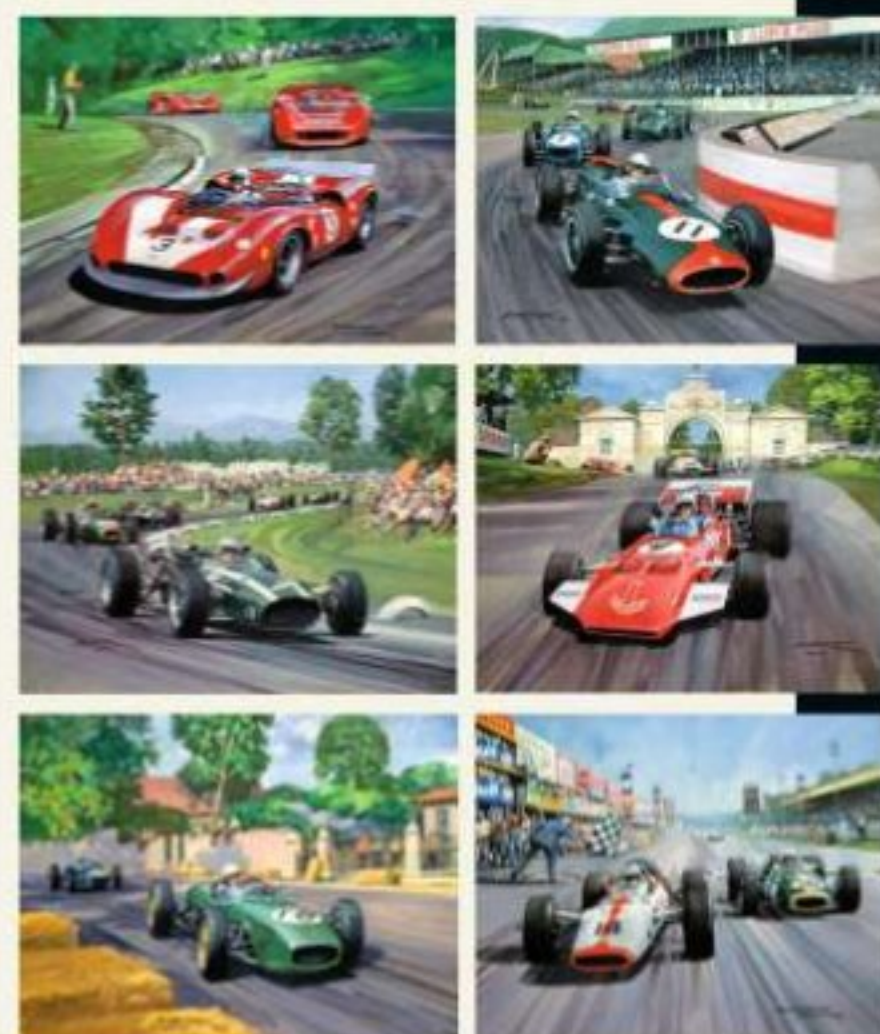
SCALEXTRIC 1960s F1 SET

£84.99 – scalextric.com
Featuring Bruce McLaren's high-winged McLaren M7C of 1969 and the slightly older, '68-spec Lotus 49B of Jackie Oliver, this new set celebrates a golden era of F1. Don't let the fact that the McLaren is mysteriously wearing slick tyres deter you – they're very cool indeed.



TURNER SURTEES PRINTS

£250 each – thesignaturestore.co.uk
Legendary artist Michael Turner has produced this set of six exclusive prints to commemorate the career of the mighty John Surtees. Each print measures 21"x17" and is limited to a run of just 50 worldwide. All profits go to the Henry Surtees Foundation charity.



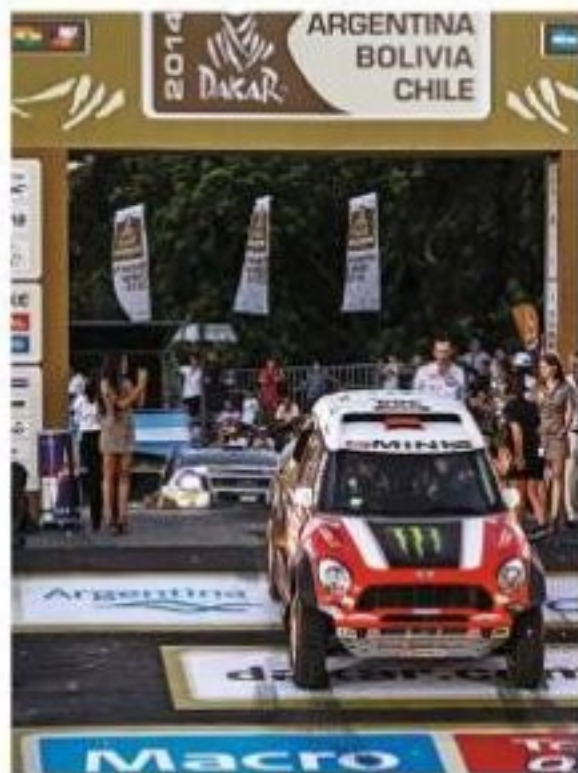
WHAT'S ON

ON TRACK AROUND THE WORLD

DAKAR RALLY

Buenos Aires, Argentina to Buenos Aires, via Chile and Bolivia

January 4-17
dakar.com



EUROPEAN RALLY CHAMPIONSHIP

Rd 1/10
Janner Rally
Freistadt, Austria
January 4-6
fiaerc.com

AUTOSPORT

INTERNATIONAL

8-11 January 2015, NEC

ANTHONY DAVIDSON IS the latest star name to confirm his attendance at AUTOSPORT International.

The World Endurance Champion, and former grand prix driver, will be a guest on Saturday January 10, just two months after clinching the title for Toyota in Bahrain last November.

"It's been an incredible year, winning the FIA World Endurance Championship with Sebastien [Buemi] and



GRIFFITHS/LAT

Toyota," said Davidson.

"The title is the result of a lot of hard work by a lot of people, so it'll be great to celebrate that at

AUTOSPORT International in January with the passionate British fans who have supported me throughout my career."

MY FAVOURITE DRIVER

Jacques Villeneuve

The legend of Gilles played a part in an eight-year-old **GLENN FREEMAN** being captivated by a Villeneuve... but it wasn't the obvious one

WHEN YOU TELL SOMEBODY

that your favourite driver is 'Villeneuve', the deliberate ambiguity inevitably leads to a response of "Ah...Gilles". Clarifying that it's in fact the Ferrari icon's son then leads to a gasp, raised eyebrows, and occasionally the odd expletive.

But it was the aura of Gilles that led this eight-year-old to be captivated by the name 'Villeneuve' in 1994 as Nigel Mansell's Indycar title defence quickly fell flat. Having not been fortunate enough to witness Gilles' career, as a child I was fascinated by the Villeneuve dynasty returning to topline racing in the 1990s. It didn't matter that I couldn't pronounce

his first name (how many eight-year olds do you think understand the complexities of French pronunciation of 'Jacques?'), much to the amusement of my parents.

If I wasn't hooked by the end of his rookie-of-the-year season in '94, then winning the 1995 Indy 500 after receiving a two-lap penalty sealed the deal. Getting to ghost-write his 'Race Of My Life' on that victory remains my favourite task at AUTOSPORT.

I was fortunate enough that Villeneuve won the first two grands prix I attended – the '96 and '97 British GPs – and at the latter I had to be one of the only people in the Silverstone crowd overjoyed when Mika Hakkinen's Mercedes engine failed as they squabbled over victory. By now I was equipped with a Canadian flag, much to the annoyance of the people sitting in front of me in the Luffield grandstand, I'm sure. That flag came with me to every British GP I attended, and naturally I was convinced that he saw it on a couple of occasions when we used to watch qualifying from our regular Saturday spot on the approach to the Abbey chicane.

As Villeneuve's career faded in the 2000s my loyalty was unmoved. Podiums



LAT

Freeman cheered for Villeneuve at the 1997 British GP



Villeneuve returned to the Indy 500 in 2014

F. PEIRCE WILLIAMS/LAT

for BAR felt like wins, as did points with Sauber. In between, a trouncing at the hands of Fernando Alonso during a cameo for Renault was swept under the carpet.

They say you should never meet your heroes, but I'm chuffed that my job has allowed me to interview Villeneuve several times. I did my best to play it cool

"I'm chuffed that my job has allowed me to interview JV"

at Le Mans in 2007 when Peugeot said that none of their drivers was available to talk, then after a pause I was asked: "unless you'd like to speak to Jacques?"

Most people groan when Villeneuve announces yet another one-off deal to keep his career going, but as a fan I like the fact that he keeps turning up (perhaps with the exception of his World Rallycross campaign). Watching him fight for NASCAR Nationwide victories at Road America was just as exciting as the glory years of '95-'97.

Your guide to the best events taking place in the UK and around the world – plus TV and online

ON TELEVISION

THURSDAY JANUARY 1

1135-1545 Motors TV
 V8 Supercars Season Review
1650-2000 Motors TV
 WRC Season Review
2000-2100 Sky Sports F1
 Classic F1: 1970 Season Review



FRIDAY JANUARY 2

1135-1545 Motors TV
 V8 Supercars Season Review Part 2

MONDAY JANUARY 5

2000-2100 Sky Sports F1
 Classic F1: 1972 Season Review

SATURDAY JANUARY 3

2000-2100 Sky Sports F1
 Classic F1: 1971 Season Review

TUESDAY JANUARY 6

2200-2300 Sky Sports F1
 Malaysian Grand Prix 2014 Highlights

SUNDAY JANUARY 4

1800-1900 Sky Sports F1
 Classic F1: Story of 1984

WEDNESDAY JANUARY 7

2200-2300 Sky Sports F1
 Bahrain Grand Prix 2014 Highlights



ONLINE

HOT ON THE WEB THIS WEEK

YouTube MELBOURNE WHETS APPETITE FOR F1 2015



SEARCH FOR: 2015 Formula 1 Australian Grand Prix Official Launch (1:15)
 With just 10 weeks to go before the start of the 2015 Formula 1 season, the host city of the opening race enlists Red Bull star and pride of Oz Daniel Ricciardo – and his 100W smile – for a PR blitz in downtown Melbourne.

AUTOSPORT+

Keep up with all of the news in the new year on autosport.com

With this issue of AUTOSPORT going to press before the start of 2015, keep a close eye on our website for all the latest news, views and reaction to the breaking stories. Things kick off with the start of the Dakar Rally on Sunday.

GET AUTOSPORT ON THE MOVE

IN THE IPAD ISSUE THIS WEEK

- DAKAR RALLY PREVIEW, PLUS TOM KRISTENSEN RETROSPECTIVE
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Revved up over what's on the box

WHILE POINTING OUT ROOM FOR improvement is part of a TV critic's role, in motorsport broadcasting there is generally more to praise than admonish – especially when comparing the size of the offering and the imagination of the presentation compared with a decade ago.

Naturally, though, there are still gaps to fill, so as we enter 2015, here is AUTOSPORT's New Year's Wish List for how racing on TV could be even better:

1) Formula 1 broadcasters – and F1 itself – should embrace its feeder series more and make sure the likes of GP2/3 aren't just schedule gap-fillers, but are embraced within the main coverage. This situation is already better than it used to be, but MotoGP works hard to make sure

its audiences are familiar with the rising Moto2/3 names before they reach the top, building fan awareness and loyalty, and F1 has ground to make up.

2) Pitlane reporters must revise the



difference between a fact and a hunch.

3) Readily accessible and well-packaged World Rally Championship coverage. Something as alluring and easy to stumble upon as *Top Gear Motorsport/Rally Report's* approach, basically.

4) Continuing to appoint anchors and interviewers on the basis of subject knowledge and professionalism, not whether they're easy on the eye or have profile elsewhere. Progress was made on this front in 2014. Keep it up.

5) Plan your use of retro and archive material so it's got relevance to what's going on now rather than spitting it out arbitrarily, particularly when it's appearing during a grand prix weekend when there's a captive audience. While it's fun when

mid-week channel-hopping lands on a random Long Beach Grand Prix, it's even better when that Long Beach GP appears between Austin GP practice sessions.

6) Lose the inferiority complex in commentary. Talk about how what makes your series so fantastic, rather than just declaring it better than F1. Pandering to an anti-F1 minority in an audience is a turn-off for the much greater number of people who simply love racing and are willing to embrace new things when they're made suitably accessible.

7) Begin talks with Jenson Button for 2017. That man's broadcast career will be spectacular when his F1 career does actually end.

Revved Up

Marco Apicella

“This race made everyone happy, not just your mother and father”

■ Japanese F3000 ■ Autopolis ■ July 19 1992 ■ Dome-Mugen F103 ■ First victory for Dome



Apicella's first win was also Dome's maiden Formula 3000 success

74

LUCKILY, I HAVE MANY RACES that I remember with much more happiness than my one in Formula 1 [Apicella's sole grand prix start, for Jordan at Monza in 1993, ended on lap one when he was hit by another car in the rush for the first corner]!

Actually it's not easy to choose one particular race because I did more than 250 in my career, but one that stands out for me is my first win in Japanese Formula 3000, at Autopolis in 1992.

This was a beautiful track, set in the crater of an extinct volcano, but the downside was that it was in a very remote location in the south island of Japan. They hoped to host a grand prix but it never happened. For me, the only thing that was a shame is that the crowd was not so big there compared with other races – the Japanese are very passionate about motorsport and F3000 attracted big crowds elsewhere.

What made this race special was that we had a new chassis that year from Dome, the Japanese

manufacturer. And we had Dunlop tyres that were good, but not quite as competitive, let's say, as those from Bridgestone and Yokohama, so to win a race meant we had all done a fantastic job.

On the Friday and Saturday it rained, and that would not have been a problem, but it was misty as well – we were in the mountains, of course – so nothing could happen

while we waited for it to clear. Everything happened on Sunday: practice, qualifying, the race.

I qualified third, which was our best place of the season until then, I think. I remember Eddie Irvine was on pole, second place I'm not so sure – maybe Mauro Martini [actually Volker Weidler; Martini was fifth – Ed]. Then I just did a very good start. Irvine had a problem with his

gearbox and was slow away and I was leading at the first corner.

From there, I was able to keep my pace until the end of the race. The car was handling perfectly and the tyres were fine. I made a very comfortable gap [up to 25 seconds at one point] and managed it to the end. In the final laps, Mauro closed in, but if he had come any closer I could have pushed harder.

This was a race that made everyone really happy – when I say everyone, I mean people like those at the factory, not just your mother and father! It was Dome's first win in 3000, and to achieve this against such strong competition from Lola and Reynard made them very happy.

For me, this was also my first win in F3000. I had been five years in Europe and not won a race, for many different reasons, so this victory also gave me great happiness. Even though I won the championship in 1994, this race was very important. *Marco Apicella was talking to Stuart Codling*

PROFILE



MARCO APICELLA NOTCHED up over 50 FIA Formula 3000 starts after making his debut in 1987, netting podiums but no wins. Having tested for Minardi and Modena-Lamborghini in F1 without securing a drive, he moved to Japan in 1992 to contest its domestic F3000 series. He won the title in 1994, and raced in Japan until the end of last decade. He also started the 1993 Italian GP for Jordan.

NEXT WEEK Vettel's Ferrari gamble
Plus: The other Seb: we talk to WRC ace Ogier

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LE QUEST

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Ginetta Juno LMP3

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WELCOME

ANYONE WANDERING AROUND THE NATIONAL EXHIBITION

Centre in Birmingham on the Friday evening of the AUTOSPORT International Show, will find around 200 of the exhibitors packing up ready to leave. Given the crowds that will flock to the halls over the weekend, this may, at first, come as a surprise.

These are the companies who participate in AUTOSPORT Engineering, a show within a show, designed specifically for the trade. For them, there is no need to display their wares before the general public, but on the Thursday and Friday they will be able to make contact with much of the world's motor racing industry.

Given its status in world motor racing, the UK is a logical place to hold an exhibition such as this. There is more to this country's motor racing than a matter of the Formula 1 and World Endurance champions, let alone the GP2 and GP3 series winners. Britain has been at the forefront of the motor racing industry ever since a raft of supplier companies sprung up, post war, in the wake of the small racecar manufacturers that challenged the might of the Italian and German marques. It is possible with some of today's suppliers to trace their origins back to those days. Take specialist component manufacturer Titan. Its provenance harks back to Charles Lucas (Engineering), which ran Formula 3 cars for, among others, Piers Courage and went on to manufacture Titan F3 and Formula Ford cars. Today, it produces components such as steering and oil systems, limited-slip differentials and engine products. It is also a regular exhibitor at AUTOSPORT Engineering.

The latest figures available show that the UK motorsport and engineering services industry have an annual turnover of around £9 billion. That is nearly double the figure at the turn of the century. The Motorsports Industry Association points out that there are around 4300 businesses in this sector employing some 41,000 people. True, the industry did suffer from a recessionary dip but it seems to have bounced back, reaching the highest level of sales in its history.

Like AUTOSPORT Engineering, the UK motorsport industry has a strong international flavour, with 87 per cent of its members exporting products or services. Perhaps it is not surprising that the global motorsport-business sector, both suppliers and customers, will be in Birmingham during those two days in January.



Ian Wagstaff

IAN WAGSTAFF
EDITOR



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Latest show news

The latest info on some of the key exhibitors at the world's most important trade show



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Floorplan

Your guide to whose stand appears where during the two-day NEC extravaganza



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Electronics experts

Why the sophisticated art of electronics is important at all levels of motorsport



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Suspension stars

Details of the all the key suspension-component suppliers showcasing their wares this year



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Braking big guns

The art of going faster includes the science of stopping properly, too, as we explain



PAGE 25

Zircotec feels the heat

The British firm is in the spotlight at AUTOSPORT International with its thermal-barrier technology



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PRI boss talks ASI

Performance Racing Industry show boss John Kilroy extols the virtues of our own trade exhibition





Autosport Engineering has a truly global reach



A case study at last year's exhibition



Most of the exhibitors take advantage of the simple, shell-scheme stands



University representatives chat to legendary aftermarket spoiler 'king' Richard Grant

DRIVEN TO PERFECTION

AUTOSPORT Engineering attracts experts in the field from all over the world, all keen to showcase their wares

AUTOSPORT Engineering only lasts two days – Thursday and Friday, January 8 and 9 – but it's one of the most significant events in the motorsport industry and trade calendar. Started in 1994 as an adjunct to the already established AUTOSPORT International Show, it's become sufficiently well-established to attract tier-two and tier-three suppliers from around the globe.

Names range from the familiar to the esoteric. Wirth Research, for one, dipped its toe in the proverbial water last year and found the event so beneficial that it's back for 2015. Transmission specialist Hewland last exhibited at the show 15 years ago but has decided that it could stay away no longer, while one new exhibitor sure to excite interest will be Project Brabham.

Use is made of Hall 9 of the National Exhibition Centre with most of the exhibitors operating from ready-built shell-scheme stands, leading to a busy, marketplace ambience. By the beginning of December, 158 suppliers were signed up for the show with more expected in the run up to the event. While there are some that need

to promote the brand generally, most of the traders present have no need of public awareness. While there will still be some industry suppliers exhibiting in the main halls over the weekend, the majority will have packed up on the Friday evening.

For those only attending AUTOSPORT International at the weekends, it may come as a surprise to know just how many trade visitors will have been packing the halls in the previous two days. The organisers say that of the 82,400 people who attended last year's show over the full four days, 27,800 were from the trade. Fifty-seven per cent of the total recorded it to be important for their businesses and visitors came from no fewer than 63 countries.

The organiser of AUTOSPORT Engineering, Haymarket Exhibitions, continues to look out for more relevant opportunities. Just over a decade ago, manufacturers of capital equipment were invited to exhibit and, last year, a dedicated engine village was included.

Back in April, it was announced another new dimension was being added to the event, the Low Carbon Racing and Automotive Show. One might have described

it as a show within a shown within a show. Support was secured from the Motorsport Industry Association, which has long held a low-carbon conference in conjunction with the show, and discussions began with a range of groups and bodies including the Low Carbon Vehicle Partnership, Technology Strategy Board, OLEV, SMMT, UKTI (Automotive Investment Office) and the FIA.

The idea was to 'set the agenda as the event marketplace for showcasing current and emerging technologies in low-carbon automotive engineering'.

With low-carbon powertrain regulations having been in force during 2014 in Formula 1 and the World Endurance Championship, not to mention the start of Formula E, it seemed a good idea. There was even talk that the TT bar, named after AUTOSPORT Engineering's head of business development Tony Tobias, might have to make way for stands. Unfortunately, the take up has not quite as expected and, at the time of writing, there were only seven exhibitors: Claytex, Emissions Analytics, Frost EV Systems, Greenpower, Performance Project, Raffenday and WMG Innovative Solutions.

Word is that the TT Bar has been saved.

Going underground

Total Sim, one of the two companies involved in Aero Research Partners, will be using AUTOSPORT Engineering to talk about the recently announced Catesby Tunnel project.

The Victorian Great Central Railway tunnel near Daventry, Northamptonshire is thought to be the only such passageway in the UK suitable for wind tunnel work where a full-sized car can be driven at high speed rather than remain static. Total Sim is claiming that it will become 'the world's premier full-scale vehicle testing facility' when it is completed. An accompanying science park is also planned.

Total Sim expects to spend a year securing planning permission and then at least a year on construction. The company's Tracey Moulder told AUTOSPORT: "We're looking at between two and three years before we're fully operational."



IAN WAGSTAFF

Engine Parts offers Indy trip

Purfleet-based Engine Parts UK sees AUTOSPORT Engineering as the obvious place to launch King Engine Bearings into the UK.

Vince Belsey and the company's sales team have been inviting potential customers to take part in a draw, with a prize of an all-expenses-paid trip to the Indianapolis 500, 24 Hours of Le Mans or a major European Grand Prix.

The winner will be announced after a seminar, to be held at the show on the Friday afternoon. Engine Parts and King will be hosting this event, which will cover 'race engines and their challenges to bearing performance'. The speaker will be King's R&D director Dr. Dimitri Kopeliovich. This follows a technical seminar given in December at the Performance Racing Industry Show in Indianapolis.

King, which was established in the USA in 1960, is now introducing its competition product to the UK. Engine Parts will act as its UK distributor.

Holinger steps up a gear

Australian firm Holinger Engineering has announced that after several decades producing in-line gearboxes and transverse transaxles, it will be bringing a new in-line six-speed sequential transaxle to Birmingham.

Holinger has produced many kits for OEM in-line transaxles for firms such as Lamborghini, Aston Martin and Porsche the MFT, as it is known, is the first 100 per cent Holinger unit.

The MFT can accept input from either end and be orientated with the differential above or below the input shaft. This allows a wide range of applications, from mid- or rear-engined GTs to off-road buggies. Two versions are available, for high torque and for extremely high torque. While a traditional gear lever can be used, the MFT has been designed with paddleshift in mind.

It features direct pneumatic actuation at the camshaft, which is said to provide fast, positive and consistent shifts. A large range of gear ratios is available, along with an adjustable limited-slip differential, which can be readily accessed and adjusted while the transaxle is installed in the car.



AP Racing to unveil entry-level calipers

AP Racing's stand will focus on its entry-level Pro 5000 R motorsport caliper range.

Following on from the Pro 5000 line-up, this draws heavily on the company's Radi-CAL design philosophy. The range of two-piece designs will initially consist of three calipers – two six-piston and one four-piston option.

The Radi-CAL process, introduced in 2007, allows AP Racing to minimise structure and weight, while improving caliper cooling and without sacrificing integrity. Over 80 different Radi-CAL designs have been produced to date covering all the major motorsport categories.



Opportunity knocks for Plex

There is no doubting AUTOSPORT Engineering's worldwide appeal. Plex Tuning, an expert in knock monitoring and combustion analysis based in Athens, Greece, will be launching a couple of new products at the show. The company was formed 16 years ago and during that period has grown from a high-end tuning workshop to an international supplier.

The Plex Knock Monitor Version 2.0 features the same ergonomic design as its predecessor but features new hardware to give improved knock detection. Alongside it on the Plex stand will be the company's new SDM-500 Dash Display & Logger, a dedicated ECU monitor designed to resolve dash-related issues.

New facility for Titan

Autosport Engineering regular Titan, which has its origins in the 1960s Formula 3 chassis manufacturer of the same name, has recently added a Resin Transfer Moulding (RTM) facility to its St Neots, Cambridgeshire base.

This will enable the company to offer a complete, in-house service for the production of carbonfibre components, right through from initial component design to final manufacturer.

It will also allow Titan to optimise existing products, whether designed from another carbonfibre process or from another material.

At this year's AUTOSPORT Engineering, Titan will be displaying its latest throttle bodies, steering racks, sump kits, limited-slip differentials and power-steering systems.



Cartek takes control

Cartek Motorsport will be showing off versions of its Power Control Panel, which it has created for customers since the product's launch a year ago. The panel was designed to fill the gap between using individual switches, relays, circuit breakers with complex wiring and expensive Power Distribution Modules.

The most recent application has been for the next generation of Mini Challenge UK car. Cartek has designed a central switch panel in the traditional Mini circular shape, which incorporates all the required electrical controls such as wipers, lights and windows. This new version of the Mini racecar is also adopting Cartek's battery isolator systems and FIA rain lights.



New Mini racer has Cartek info panel

Research firm: Wirth returning in 2015

Wirth Research made a successful debut at last year's AUTOSPORT Engineering, the first time it had participated in any motorsport-orientated exhibition.

Prior to then it had been, as managing director Simon Crompton pointed out, fairly quiet about what it had achieved and what it could do. The idea, said Crompton, was to show Wirth's reach.

With the stand attracting a good number of visitors in 2014, good coverage in leading publications and company founder Nick Wirth being interviewed on the

AUTOSPORT Central Stage by Henry Hope-Frost, it's committed to a return.

This year Wirth Research has been working on the new Honda Performance Development ARX-04b LMP2 coupe as well as being involved with the all-new FIA Formula E championship. It has also been developing the new bodywork kits for Honda-powered Indycars.

This year's stand will provide an overview of the company's performance engineering, including its project-management expertise and composite-component design skills.



Wirth appeared on Central Stage with host HHF in '14

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New firm cleans up

Safe Solvents, a new player in the parts-washing industry, will be using Autosport Engineering for its official launch platform.

The company was created a year ago by a team said to have a history in chemical innovations. One of the directors is also former GT and touring car racer, Bob Sands. That time, though, has been used in setting up the business and working on a trial basis with a number of race teams.

Safe Solvents is, in fact, a service solution using what it describes as 'simple' machines with plenty of features. A short-term service package is available in which machines are provided free on lease and a clean solution is delivered automatically every month. Old solution is also collected free of charge. One of the recent downsides of the industry has been the cost of aqueous solvents. However, Safe Solvents makes use of fluids that are claimed to be as effective as standard solvent but with none of the risks.



Lifeline relocates

One exhibitor on the move is Lifeline Fire & Safety Systems. In November it relocated its headquarters to new premises in Falkland Close, in its home town of Coventry.

The new factory not only has separate production lines for motorsport and defence fire extinguishers but also dedicated lines for complementary motor sport products such as mirrors and steering wheel bosses.

Lifeline moved to its previous premises in Burnsall Road 16 years ago but, as managing director Jim Morris said: "we have been at or near bursting point for some time now. [At the new factory] there will be greater integration between our design, testing and production teams."



New exhibitor Forges ahead

Every year there are new exhibitors in the Engineering hall and one of this year's debutants will be UK manufacturer Forge Motorsport, which will be displaying a diverse range of new, precision alloy components.

A supplier to many British Touring Car Champion, GRC and Time Attack teams, Forge provides off-the-shelf products and one-off requirements.

As a Volkswagen Group specialist, the company will be using the show to give a new range of VW and Audi tuning products its public debut.

Siliconhoses.com and Hosetechnik, which are both part of the Forge Motorsport group, will also be using their parent company's stand to launch their latest silicone hose and fluid-transfer products respectively.

HANS III is go

Simpson Performance Products will display its third-generation HANS III device, first seen at the Professional Motorsports World Expo in Cologne.

The company claims it to be the lightest composite HANS device approved for competition by the FIA and uses a new polymer and a hollow-collar design.

Among other new products on its stand, Simpson will also display its lightweight, quick-release tether for HANS devices.

Advances in Front Head Restraints are particularly topical as the Motor Sports Council has ruled that such devices are to be mandatory for all drivers of post-2000 single-seaters this season and for all circuit racers – except those of historic cars – in 2016. Recent research conducted by the FIA has suggested that FHRs are the single biggest step forward in personal-safety equipment during modern times.

IN BRIEF



DRENTH GOES 3D

Drenth Motorsport is working flat-out to finish a new front-wheel-drive gearbox in time to exhibit it at AUTOSPORT Engineering. It will not be possible to finish a complete gearbox in cast aluminium so it will be 3D printing the housing in order to display it.

TSS SEALS THE DEAL

AUTOSPORT Engineering exhibitor Trelleborg Sealing Solutions has recently announced that it is now supplying advanced seals to Protean Electric for its in-wheel electric-drive systems.



IS-M BACK IN BRUM

IS-Motorsport is returning to AUTOSPORT Engineering for the first time since 2007. It will be taking the opportunity to promote its new magnetic connector, which currently has the provisional name of the Mantis Quick-Lok, as well as a new range of Instalite moulded boots for TE Components.

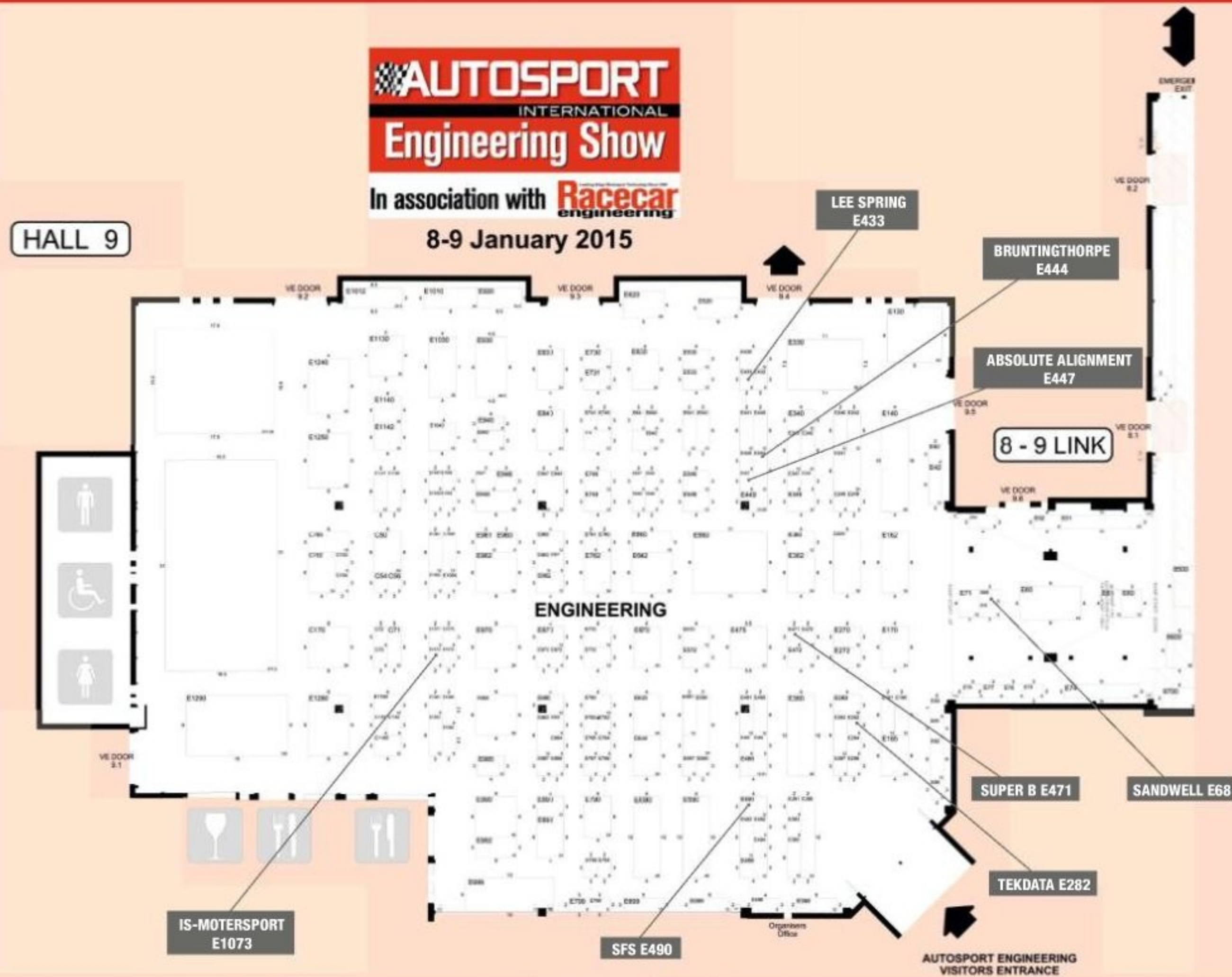
AAO GOES VINTAGE

Anglo American Oil will be launching a new product from Driven Racing Oils, HDF, a hydraulic dampening fluid for vintage Koni shocks.

ARP IN BIG EXPANSION

California-based exhibitor and threaded fastener manufacturer ARP has reported 'tremendous growth' since the last AUTOSPORT Engineering. It has added several more CNC centre-less grinders and another robotic thread roller, as well as doubling its heat-treat capacity, expanding its inventory and shipping facilities and outfitting an R&D shop.





Hall 9 | Stand E282

Tekdata design, manufacture and supply electrical box wired and harness solutions to the motorsport, automotive, defence, avionics, deep space, marine and commercial markets. With over 40 years experience of supplying innovative solutions, Tekdata offers the widest range of lightweight, harsh environment compatible interconnections available today, based on the breadth of technologies used within our chosen markets.

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Hall 9 | Stand E1073



IS-Motorsport are specialist distributors of high performance electrical interconnect & electro-mechanical components and services. On display will be our new quick-lok micro connectors, lightweight performance data wire and cable, plus new the Instalite micro boots from TE Connectivity.

Hall 9 | Stand E444



Come and talk to us at the Bruntingthorpe Proving Ground stand to discuss all your test track requirements. Whether it's a race car or 4x4 vehicle that needs testing, or whether it's a motorsport-based corporate hospitality event that you're after, then we're sure we can help!

Hall 9 | Stand E68

Sandwell UK Ltd is a highly professional company focused on specialist surface engineering solutions for top level clients. Specialist skills with excellent product knowledge in Shot Peening technologies and Surface Engineering are key to the company's success. We are always pushing surface finishing boundaries with new innovative techniques, whilst always meeting our customers needs and expectations.

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Hall 9 | Stand E447

Absolute Alignment is exhibiting the latest Bluetooth 4-wheel alignment equipment equally at home in the workshop or the pits. Adaptable for use with most lifts or even on portable setup stands and corner weight patches, our innovative system reads toe, camber, caster and thrust on both front and rear axles.



Hall 9 | Stand E471

Super B are the original manufacture of Lithium Ion Phosphate starter batteries. Super B design and manufacture a complete range of starter and energy batteries. Super B batteries are designed and engineered to offer fantastic performance with reliability whether fitted to a 125cc go kart or an LMP1 race car.



Hall 9 | Stand E433

Lee Spring is a manufacturer of stock and custom springs, servicing diverse manufacturing markets throughout the world.

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- Lee Spring Spring design engineers also help customers to find bespoke solutions for specific applications.



Hall 9 | Stand E490

SFS Performance manufactures silicone rubber coolant, turbo and intake hoses for motorsport and fast road applications. SFS hoses are used at the highest levels of motorsport, and also by many supercar manufacturers. In-house tool making ensures quick turnaround of prototypes. Our unique robotic production cell ensures absolute quality, and lowest UK production costs.



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Stand E68

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THE PERFECT PLACE TO GET WIRED UP

Electronics is a black art in motorsport, from F1, WEC, WRC and all the way down. **STEPHEN SLATER** examines the latest trends in this highly specialised discipline and introduces some key players

Back in 1991, when the first AUTOSPORT International show took place, there were still plenty of race engineers used to the snort and gargle of carburettors, and electronic control probably meant a screwdriver-adjusted ECU. Today things are very different, with the drop-down from F1, WEC and WRC electronics becoming accessible to every level of motor sport.

One of the legendary founder names in motorsport electronics is now a part of another legend. In 1987, what is now Cosworth's electronics division was founded by Tony Purnell, under the name Pi Research. The company initially focussed on electronic instrumentation of data from windtunnel testing, before moving to on-car data acquisition – and the Pi 'Black Box' was born. The first electronic dash display and combined data logger to be used in professional motorsport, it marked a turning point in racecar technology.

Today Cosworth supplies both high-performance engines and delivers a 'one-stop shop' for performance technologies including electronics. Among its latest products are the Pi Sigma Elite data acquisition and control systems, and the Omega intelligent colour display (ICD), which integrates a high-performance, configurable, full-colour 6.2" TFT dashboard display with an Omega data logger and control platform, all in one unit.

Another legendary name, this time from the southern hemisphere, is MoTeC. The company first made its name with distinctive gold-coloured ECUs and introduced the first data logging and live telemetry to Australian motorsport in the early 1990s, before developing one of the world's first temperature-compensated Lambda meters for measuring air/fuel ratios.

The end of the decade witnessed the release of the MoTeC Advanced Dash Logger (ADL), a sophisticated display and logging and data-analysis unit. Its successor, the ADL2, is used in motorsport worldwide, from Australian V8 Supercars Le Mans and the Dakar Rally, to top-fuel dragsters, race boats and everything in between. It is also a factory fitment in Porsche's 997 GT3 Carrera Cup racecars. In addition to MoTeC's research



centre in Melbourne and two offices in the USA, MoTeC Europe was established in Banbury in 1995 to provide technical support and after-sales service to the UK and surrounding regions.

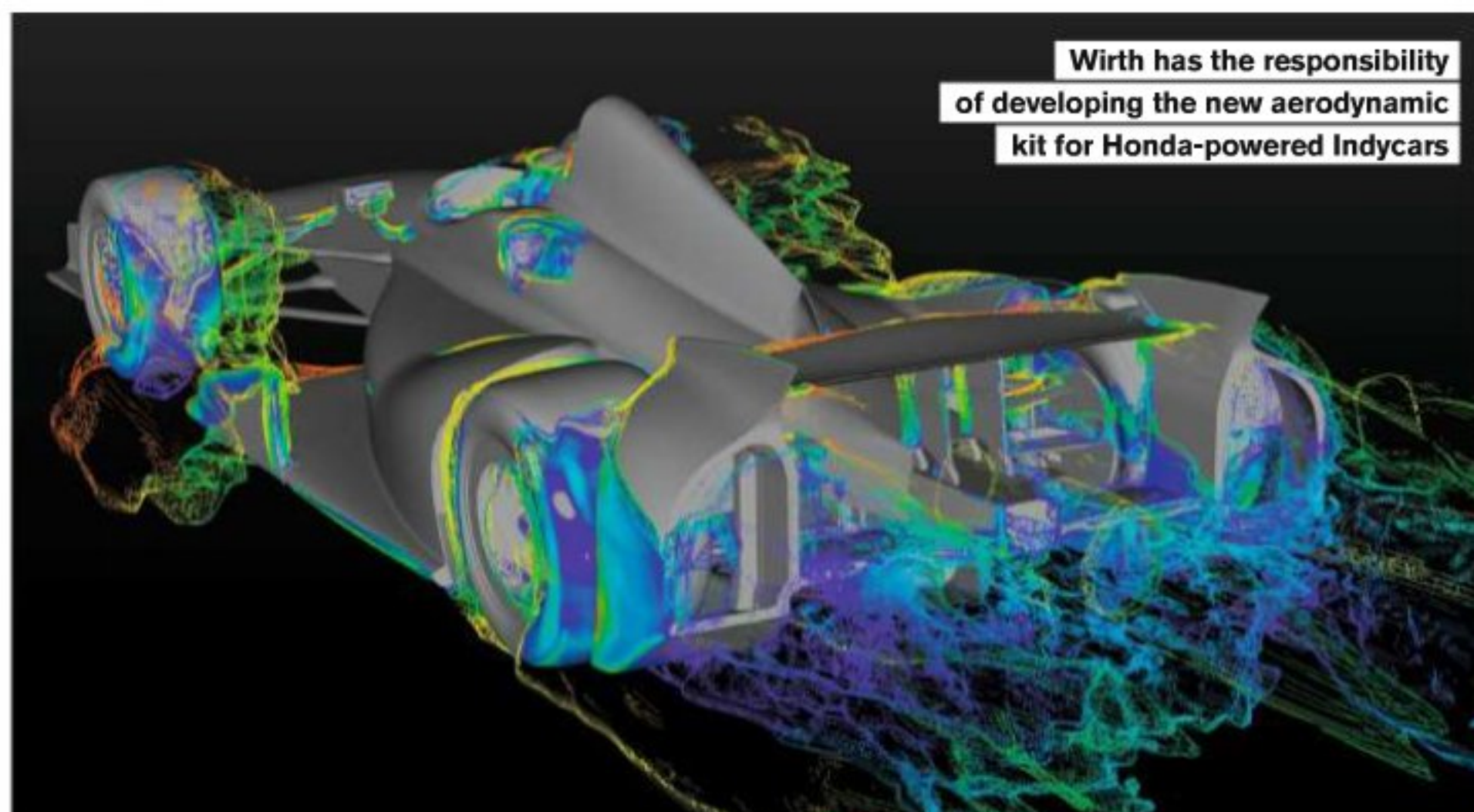
Wirth Research, which is returning to AUTOSPORT Engineering after its 2014 show debut, takes virtual design and development to the ultimate level. Founded in 2003 by former Simtek owner and Benetton and Virgin F1 designer Nick Wirth, the Bicester-based company pioneers the use of advanced virtual-engineering technologies, to create complete simulated vehicle design, development and testing processes, allowing

new components to be tested in a virtual environment before physical parts are produced, reducing the need for development models and prototypes.

The Wirth CFD process was developed to replace the windtunnels traditionally used for flow simulation, while cutting-edge simulators have been developed for the advancement of car design, set-up and driver training. Proof of the technology is provided by a decade-long partnership with Honda Performance Development Inc (HPD) on the design, development and manufacture of the championship-winning ARX sportscar, and providing Honda-powered IndyCar teams

'The drop-down from F1, WEC, and WRC is becoming accessible to every level'





Wirth has the responsibility of developing the new aerodynamic kit for Honda-powered Indycars



Data display is vital in modern racing

with advanced chassis technical support. The IndyCar project continues, with the development of new aerodynamic bodywork kits that Honda will offer teams from the start of 2015.

Another company that provides cutting-edge, real-time simulation is Claytex of Leamington Spa in Warwickshire, which has responded to restrictions on testing in areas such as F1 by developing complex simulation techniques. One innovation has been the creation of a single common model, which can be used across a team; with design office, trackside tools and driver-in-loop systems.

For the 2014 season, Claytex developed the complete modelling of the current F1-car specifications, including the hybrid turbocharged V6 power unit, ERS energy-recovery system, brake-by-wire, transmission and chassis. Looking to the future, the company is developing a new solution for modelling batteries, to further enhance hybrid- and electric-vehicle simulation.

'Variohm supplies the aerospace and medical industries, as well as motorsport'

No matter how good the theory, no electronic-control system can operate without information and high-performance sensors can spell the difference between a successful development and disaster. Companies such as KA Sensors, a specialist manufacturing company based in Grantham in Lincolnshire, pressure transducer specialist Kulite and Variohm, all exhibitors at AUTOSPORT International, offer a wide range of high-performance sensors.

Variohm, which supplies the aerospace, medical and automotive industries as well as motorsport, recently provided West Surrey Racing with an improved gearshift indicator system on its FIA World Touring Car Championship BMW 320si. Cable-extension transducers were used to link the dashboard display to the selected gear from the gear stick position, with the whole design being delivered on the same day as the initial enquiry, just in time to meet a deadline for FIA race approval.

Integrating the information with ECUs and data-acquisition hardware is another significant challenge. DC Electronics is one of the leading manufacturers of custom-built electrical systems, manufacturing control panels, systems and wiring looms for areas of motorsport including NASCAR, Formula 1, the World Endurance Series, WRC, Superbikes and F1 Powerboats. In addition, the company is supporting the inspirational Bloodhound project, which aims to set a new land-speed record of 1000mph in 2015.

Ole Buhl Racing (UK) Ltd is another award-winning leader in motorsport electronics. Specialising in engine- and power-management systems, its range of innovative products includes datalogging and displays, ECUs and paddleshift systems, while another specialist, Tekdata, goes yet higher and faster. In addition to serving motorsport, it is one of an exclusive set of companies able to meet NASA and European Space Agency specifications for space-borne interconnection systems.

All this technology is not just at the rarified end of the spectrum though. Racelogic's VBOX performance meters, lap timers, on-car cameras and video-logging systems are used across all areas of motorsport, while SBD Motorsports' MBE ECUs and Easimap software are available for Vauxhall, Ford Duratec and Suzuki Hayabusa power units. Watch out too at the show for Omex, Cartek and JT Innovations, which will be displaying everything from rev limiters and shift lights, to engine-management ECUs and touch-screen engine management displays. In fact, whatever you drive, the 2015 AUTOSPORT Show is the perfect place to get wired. ☘



DC Electronics is supporting the Bloodhound project

Product showcase

Highlighting a variety of products available in 2015

VBOX MOTORSPORT

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The VBOX Motorsport range of data loggers from Racelogic has assisted a legion of racing drivers in their quest for better lap times and greater consistency.

When looking for a higher performance level on track, many competitors will first look to the car to see what improvements can be made. But more often than not, time and speed can be found by tuning the 'nut' behind the wheel rather than the car itself – and it is why a significant number of racing instructors now use a VBOX data logger as an integral part of their coaching.

Here's what Rob Barff, GT racer and highly experienced coach, thinks: "There are techniques that you can learn by yourself, but it will take years to do so; using the video and data massively shortcuts that process.

"Practice does make perfect with good coaching. But with the data interpretation we now get very detailed analysis on a lap-by-lap basis, leading to accelerated learning, regardless of experience."

At this year's Autosport International, there will be an opportunity to check out the whole range – all of which will be available to buy at show-only prices – and to enter a racing simulator competition to win a VBOX LapTimer.



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Kevin Clarke, Intersport Racing

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SIMPSON

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HANS III
HALL 9 STAND E520

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About Simpson Performance Products

Since 1959, Simpson Performance Products has been a leading manufacturer of safety equipment for the motorsport industry. Simpson is the first American company to manufacture an FIA 8860 helmet. Simpson believes in putting safety first, and we are dedicated to elevating the standards of racing safety through continuous development, refinement and testing.

Details and information about Simpson Performance Products are available at www.teamsimpson.com or +1-800-654-7223 or contact Patrick Lynch +1-612-810-5330 patrick@teamsimpson.com



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SPRINGING INTO ACTION

STEVE RENDLE reviews the suspension-component suppliers exhibiting at AUTOSPORT Engineering 2015

In all branches of motorsport, a car's suspension forms one of its critical systems. It is the system through which all the major forces acting on the car are channelled. Mechanical forces, such as acceleration, braking and cornering, are fed into the suspension through the tyres, and in formulas where aerodynamics are significant, aero forces – downforce and drag – are fed into the suspension from the chassis. These forces can put a huge load on the suspension components, which must therefore be enormously strong, but also lightweight. The suspension must be set up to ensure that the tyres work at optimum efficiency, and in classes of racing in which aerodynamic performance is not dominant, the suspension is the main tool for adjusting performance and handling. The suspension is equally critical in aero-dominant formulas – such as F1 – where the suspension's primary role is to provide a stable and consistent aerodynamic platform by minimising the disturbances caused by track imperfections, and by acceleration, braking and cornering forces.

Suspension systems and layouts differ significantly between the various motorsport disciplines and formulas, and in the search for improved performance, suspension-component manufacturers aim to provide competitors with a wide range of specialist components to suit their varying specific needs, from flexible bushes and precision rose joints, to coil springs and bespoke adjustable dampers.

A number of suspension-component suppliers will be exhibiting at AUTOSPORT Engineering, including Ohlins, Powerflex, Bilstein and Eibach. These companies will be looking to promote their products and services to a diverse group of customers, from professional teams at the pinnacle of the sport, to grassroots competitors looking to improve performance on a tight budget.

Swedish damper manufacturer Ohlins will be showcasing a selection of products, with a centrepiece exhibit featuring the brand's high-end components, including the company's current F1 damper, Le Mans/LMP damper, plus MotoGP shocks and forks, WSB shocks and MTB downhill shocks. It will also be exhibiting historic rally dampers for the Ford Escort Mk1 and MkII, and Porsche 911, and promoting a variety of shocks and dampers based on its TTX (twin-tube) and TPX (twin-piston) technology. In addition to



competition-focused components, Ohlins will also be promoting its clubsport Road & Track range, offering suspension upgrades for roadgoing cars, currently catering for 25 applications, including the 996/997-series Porsche 911 and BMW 3-series/M3. The Road & Track series features single-tube shocks, with Ohlins DFV (Dual Flow Valve) technology. DFV provides identical characteristics on compression and rebound, helping to improve grip and traction.

Uxbridge-based specialist performance polyurethane bush manufacturer Powerflex will be promoting its retail business at AUTOSPORT Engineering, offering suspension bushes for a wide array of performance cars. According to Powerflex Sales Director James Bourn, this year there will be an increased emphasis on the company's bespoke products, which comprise around 25 per cent of its business. Powerflex supplies OE manufacturers and clients from a range of industries with bespoke products, including parts for armoured vehicles, insulating parts for the marine industry, bushes for small independent kit-car manufacturers, and even bespoke components for the Bloodhound SSC land-speed record challenger – a partnership forged following a conversation at AUTOSPORT Engineering in 2011.

Among other recently launched retail products, Powerflex will be displaying its full Road Series product line for the VW Golf Mk5, Mk6, Passat, Scirocco, and the Audi A3, S3 and TT. These components are engineered to provide increased stiffness, and to allow for additional adjustment, with only minimal increases in noise, vibration and harshness (NVH). For customers with dedicated track or competition cars – both race and rally – whose priority is optimum performance with less concern for increases in NVH, the company's Black Series components increase stiffness by an additional 43 per cent, with an increase in stiffness of 214 per cent over the original factory components, and so providing maximum chassis-geometry control.

Bilstein will be attending the show to promote its Modular Damping System (MDS) range – a series of modular components providing gas-pressure dampers to suit a varied array of competition car requirements. Both coil-over and strut options are available, and the modular components allow systems to be built in numerous configurations to suit any competition chassis. Each unit can be ►

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stand E990, NEC

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'The suspension-component supply industry continues to flourish'



► specified by the customer. The system's Easy Clip system enables springs to be quickly changed, should the circuit or conditions so dictate. The system offers a wide range of connection interfaces to suit differing competition-car applications, including uniball-bearing, pin connections and various alternative fork-connection options. The company's MDS dampers use an aluminium body for reduced weight and improved cooling, and are compatible with high-quality coil springs from a number of manufacturers. Customers can also make use of Bilstein UK's re-build and optimisation service if required.

Incidentally, Bilstein was recently approached by Sir Stirling Moss to improve the handling of his Renault Twizy. Working with Eibach, the company reckons it has created an ideal handling machine for London's congestion zone.

Coil-spring manufacturer Eibach will again be exhibiting at AUTOSPORT Engineering. The reputation of Eibach's (ERS) race-spring range has ensured a high profile for the company's products in the world of motorsport, with clients including several F1 teams, M-Sport in rallying, and Audi in the DTM. At this year's show, Eibach is aiming to



reinforce that the company is equally as capable at designing and manufacturing bespoke springs, tailored to customer requirements. This is not a new capability, but one that is becoming increasingly important to teams aiming to fully optimise a specific suspension set-up, and Eibach is keen to emphasise that its bespoke springs are not solely the preserve of its high-end clients – they are available to all customers.

The company is also hoping to spread the 'diversity' message, by showcasing not only its experience in motorsport, but also as a premium OEM supplier to the likes of McLaren and Ferrari, which has created opportunities for technology transfer into the performance-road aftermarket. As a result, F1-grade spring steel can now be found in Eibach's Pro-Kit and Sportline road sports springs kits, and lightweight hollow anti-roll-bar (ARB) material – as used on many exotic supercars – can be found in ARBs listed in the company's catalogue of road-applicable components.

With healthy competition between suppliers, and clients' diverse requirements, the motorsport suspension-component supply industry continues to flourish. ❧

What's the
secret
about the new 911 GT3 Cup's
new brakes?



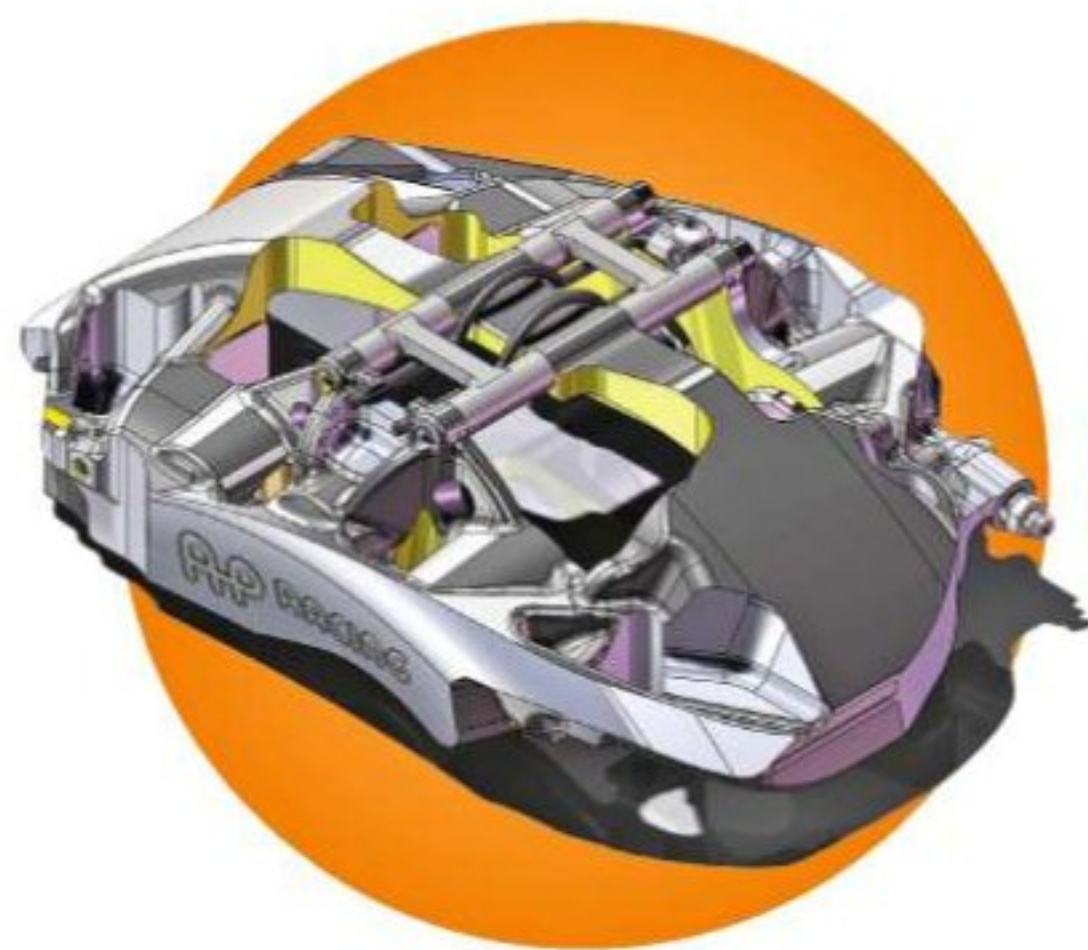
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HALT! WHO GOES THERE?

MATT YOUSON examines the leading brake suppliers that will be on display at AUTOSPORT Engineering

To the outside world, motorsport is a matter of power and speed but rarely is this the full story. Conversely, for practitioners, handling and braking are just as likely to be the topic of discussion: the science of stopping has always been at the forefront of the debate – and never more so than today.

In common with other aspects of motorsport engineering, braking technology continues to push the boundaries of performance, seeking lower weight, better reliability and a widening of the performance envelope. Unlike other branches of the profession, however, it adds a dash of art to the science, with the touch and feel of a braking system being of critical importance – and the higher up the motorsport ladder, the more particular drivers become when it

comes to getting brakes that feel just right. There is no one-size-fits-all approach to braking technology: every driver has their own individual preferences. And as every engineer knows from experience, a happy driver is a fast driver.

The world of braking-technology suppliers will be exhibiting its latest offerings at AUTOSPORT Engineering. The range of new products on display covers every aspect of motorsport, from circuit racing to rallying, and incorporates products designed for budgets from the grass roots through to elite professional categories.

Italian brake supplier Brembo is bringing a range of updated rally products to the show, starting with a 32-38mm piston liquid-cooling caliper. Developed to meet the need for enhanced cooling on asphalt stages

‘Braking technology continues to push the boundaries of performance’

of the World Rally Championship, and run for the first time on Rally Deutschland this summer, the liquid-cooling system improves performance with a temperature drop of between 80C-100C over a comparable air-cooled system. This allows teams to use more aggressive pad compounds on high-speed asphalt stages. Machined from a single aluminium-alloy billet, the structure confers a weight increase of only 200g over the comparable air-cooled model which, taken against the thermal gain, offers much improved brake-system performance. Brembo will also be displaying a handbrake system dedicated to 4WD rally cars.

The Brembo handbrake can be equipped with two parallel master cylinders, one tasked to the handbrake itself and the other for differential release. This system allows a delay in the braking action of the master cylinder in relation to the differential release to ensure only the rear wheels will be locked when disconnected from the transmission.

Brembo also has a new cast-iron rally disc on show, designed for the most extreme rounds of the WRC. The new disc, available in 300mm or 355mm sizes, has been lightened by 20 per cent compared with its predecessor and has altered ventilation designed for more efficient air circulation during the cooling phase. Each version comes with a choice of thicknesses badged ▶



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► as 'conservative' or 'extreme'. The company will also be displaying a new forged rally caliper and a new floor-mounted pedal box.

On the Tilton stand, pride of place goes to the new 600-Series underfoot pedal assembly, designed to maximise space in the footwell. Unlike traditional floor-mount pedal assemblies with forward-facing master cylinders, the underfoot pedal assembly features a rear-facing master-cylinder arrangement. This enables the pedals to be mounted further forward, allowing for a greater range of driver seating positions. Taken with over 100 pedal pad configurations and an adjustable pedal ratio, Tilton is confident that the assembly will meet the needs of "just about any racer in any application".

Forged aluminium pedals and an aluminium frame give the 600-Series underfoot pedal assembly rigid and lightweight support. Included with the assembly is a large balance bar, which minimizes flex and provides a solid pedal



'The underfoot pedal assembly features a rear-facing master-cylinder arrangement'

feel. Action on the pedals is kept smooth and consistent with low-friction, oil-impregnated bushings on the pedal pivots. The assembly is compatible with false floors and heel rests for those who wish to customise their pedal box, while Tilton is also offering a throttle linkage kit compatible with either mechanical or DBW throttle systems.

Moving on to fluid transfer, motorsport specialist Goodridge will be displaying two

models from its Advantage range of compact, couplings. The Bayonet-Type G-link Quick Disconnect Coupling is designed for hydraulic or pneumatic purposes, at pressures of up to 200bar. The locking mechanism of the bayonet is designed for one-handed operation. No separate actuation is required with the mechanism and both coupler and nipple are equipped with self-acting valves to prevent fluid loss and air-incursion during uncoupling.

The Pull-Type variant of the G-link coupling comes with a green indicator ring attached to the female half, which can only be attached when the halves are coupled. It eliminates the risk of an unintentional uncoupling. The entire mechanism is O-ring sealed, making it particularly suitable for rough conditions.

Meanwhile, the centrepiece of the AP Racing stand will be the UK supplier's new Pro 5000 R range of calipers, a low-cost design evolved from its existing Pro 5000 motorsport range.

Drawing heavily on the company's patented Radi-CAL design philosophy, this new, entry-level caliper targets value and efficiency. The range of two-piece designs will initially consist of three calipers: two six-piston models and a four-piston option. AP's Radi-CAL technology focuses on minimising structure and, thus, weight, without sacrificing rigidity, while improving the cooling capabilities of the calipers. The base philosophy targets lower operating temperatures for both caliper and disc. Since the Radi-CAL concept was launched in 2007 AP Racing has produced over 80 different caliper designs, covering all major motorsport classes globally and supplying major road-car manufacturers.

In addition to the Pro 5000 R the AP Racing stand will contain a selection of the company's key products including an assortment of specific Radi-CAL calipers designed for F1, WRC, WTC, BTCC, LMP1 and GT3. It will also show OEM calipers and discs, its aftermarket Factory Big Brake Kit on a Nissan GTR34, 'S' vane and carbon brake discs and the recently re-branded range of Radi-CAL brake fluids. ❧



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COVERING UP

Top racecar engineer **ANDY BROWN** visits success story Zircotec



Zircotec has been exhibiting at the AUTOSPORT International Show “for as long as I can remember,” says managing director Terry Graham.

The company, which specialises in ceramic-based thermal barriers, can trace its origins to the nuclear power industry. In the mid 1990s it was realised that much of the technology developed by BNP (British Nuclear Power) was not being exploited outside of the industry. At about this time, Formula 1 teams were looking for more advanced ways of shielding bodywork and other heat-sensitive components, especially as the ‘Coke bottle’ sections around the car’s exhausts became more tightly packaged. Zircotec as a stand-alone entity came in to being to meet this need.

Zircotec had gained a great deal of experience in applying thermal barriers to metallic components and hence its first solution was to ceramic coat the exhaust via a plasma-spray process, significantly reducing the external surface temperature. This could still leave some local hot spots, especially in the days of ‘blown diffusers’, therefore the next logical step was to develop a process that would allow Zircotec’s coating to be applied to ‘plastic’ composite components.

In this it has been extremely successful, now holding several worldwide patents, and

being recognised with the ‘Composites UK’ Industry Award for 2014.

Initially the company relied upon word of mouth to spread its message, but a management buyout of the company about six years ago meant that greater marketing efforts had to be made. AUTOSPORT Engineering has proved to be a significant way in which to raise the company’s profile and to show off new products.

The Zircotec stand has grown in size each year, to the point where a complete vehicle employing its products is now on display. For the first time this year, Zircotec will also be on display in the public arena courtesy of one of its distributors Fastfox Performance Parts.

The company realised that one of the restrictions for generating new business was the need for customers to ship components to its premises in Abingdon, and the coated components to then be returned up to a week later.

“We addressed this by developing ‘stand-alone’ heat shield materials that can be formed and applied by customers at their own premises,” explains Graham.

The first such material to be debuted at AUTOSPORT Engineering was ZircoFlex. This is an aluminium foil onto which Zircotec’s ceramic material is sprayed in a grid pattern of very small squares.

To be launched at this year’s show is another new product, ZircoFlex FORM. This is a more structural material than ZircoFlex, with an embossed stainless-steel core sandwiched between two layers of ceramic thermal barrier material, and is able to withstand direct contact with an exhaust system. It can easily be bent or formed, without the ceramic coating cracking, to produce complex rigid shapes, using standard fabricating tools. Prototypes of products that are in the pipeline may also be displayed as a way of gauging the interest in these.

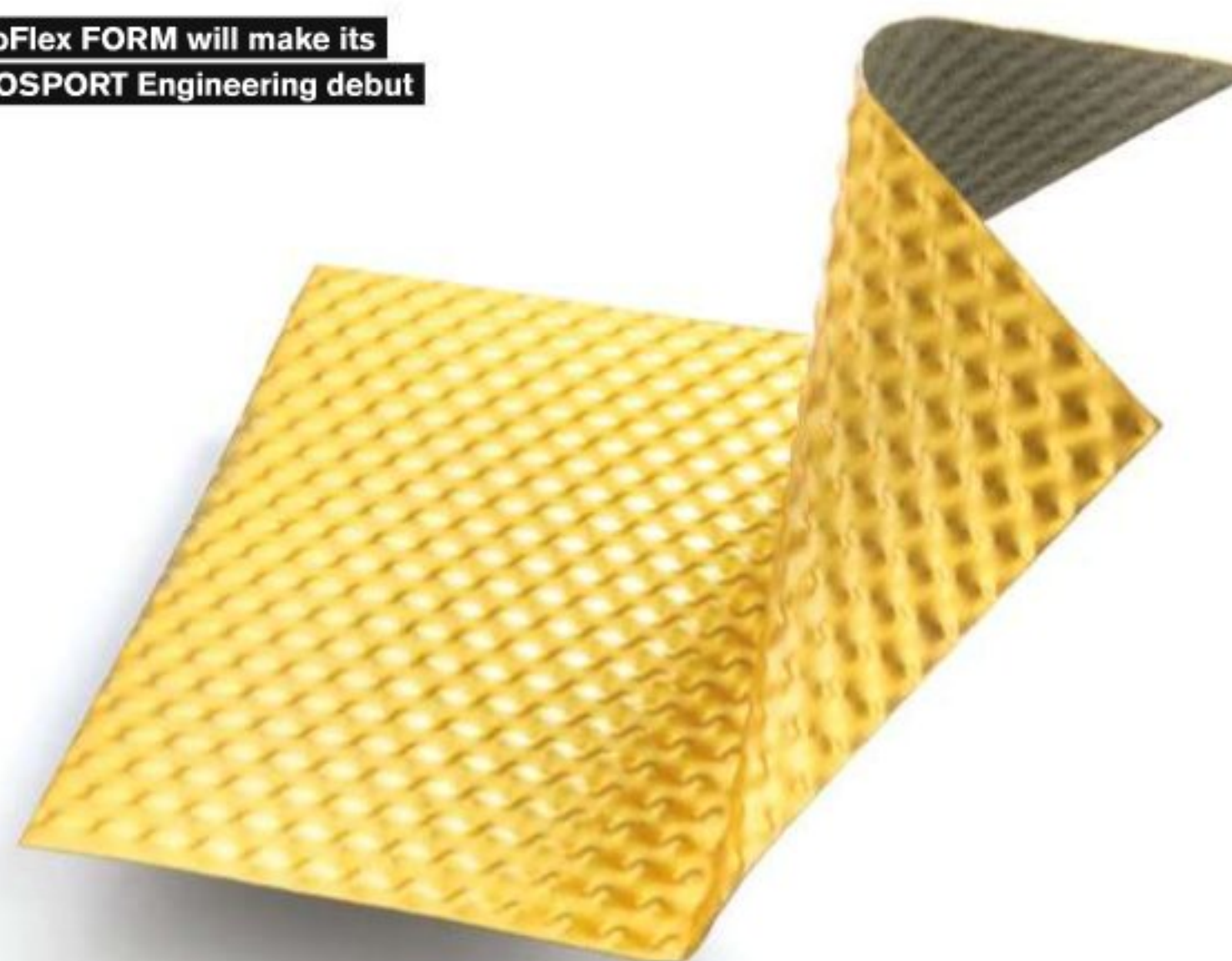
Zircotec has been able to grow its business on the back of its involvement in motorsport. The company is now four-to-five times bigger than it was five years ago, and has enjoyed a 35 per cent increase in turnover in the last year alone. OEM work forms 30-40 per cent of its business, with Aston Martin, Lamborghini and two other Italian manufacturers now among its customers, while distributors have been appointed around the globe, including Japan, Australia, Eastern Europe and the United States.

“The AUTOSPORT Engineering show is a great way of meeting new people and generating sales, but also for meeting up with existing customers and distributors as a way of keeping in touch,” admits Graham. ❧



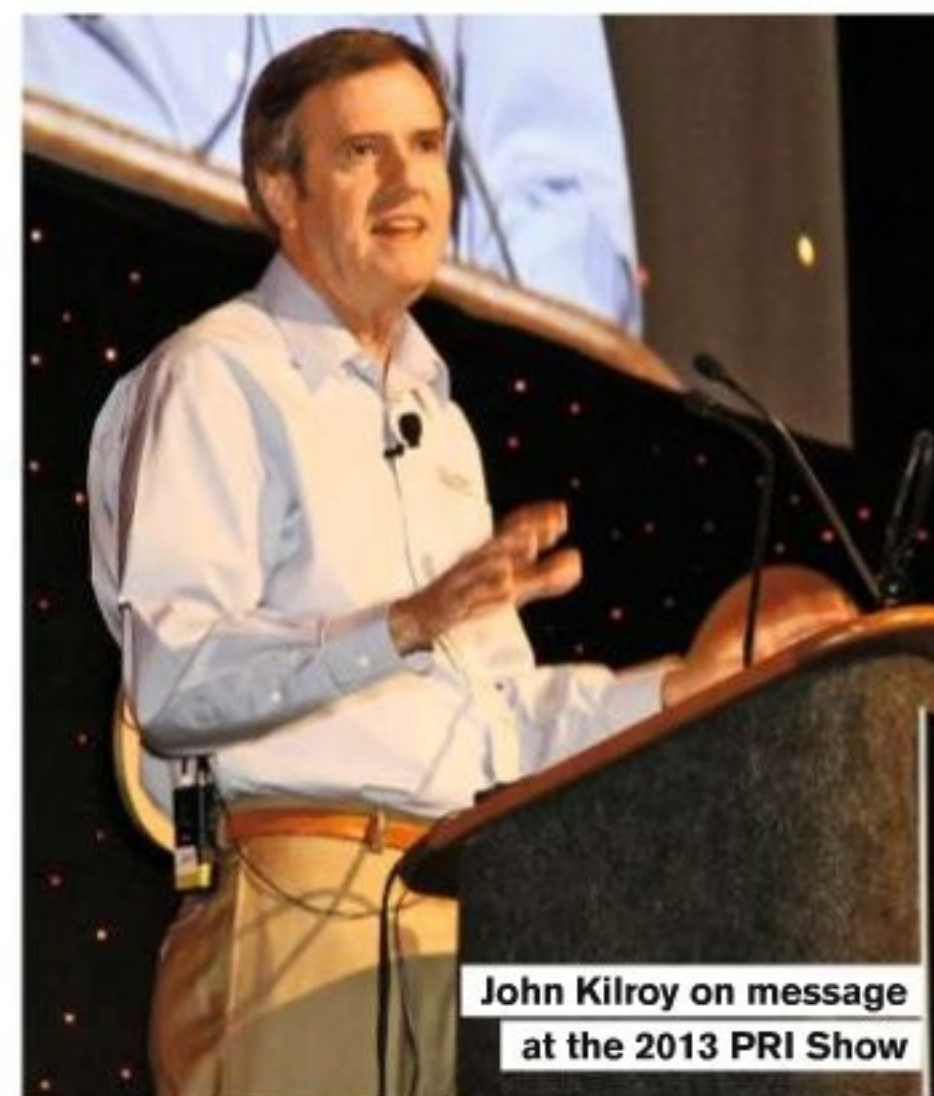
The company specialises in exhaust thermal barriers

ZircoFlex FORM will make its AUTOSPORT Engineering debut



A VIEW FROM ACROSS THE POND

IAN WAGSTAFF listens to the observations of John Kilroy, general manager of America's Performance Racing Industry show



John Kilroy on message at the 2013 PRI Show

The global reach of AUTOSPORT Engineering is underlined by the influence that it has had even on its mighty US counterpart, the Indianapolis-based Performance Racing Industry show.

"Many of our best initial conversations about developing new race markets, such as the Middle East, Eastern Europe and China, have occurred at AUTOSPORT Engineering," observes PRI's vice president/general manager John Kilroy.

Kilroy singles out AUTOSPORT Engineering's head of business development for particular praise. "Tony Tobias must be recognised for having the vision and the boundless energy to start up AUTOSPORT

Engineering, and develop it into the important industry event it is today. When Tony calls, we listen. He has been a real innovator in the global motorsport industry in getting racing companies to do business across the Atlantic, in both directions. Years ago, we saw Tony opening international doors for US businesses, helping them to market their products to the UK and Europe. It helped PRI see that there could be a real opportunity for PRI to help UK and European companies come to the PRI Trade Show to bring their racing products to the US market."

The motor sport industry's worldwide reach is significant to Kilroy. 'It's been fascinating to watch racing companies break through barriers such as language, culture, government rules and differences in currency to become brand names in other countries. International buyers who come upon a US company exhibiting in AUTOSPORT Engineering know they are approaching a firm ready to do business internationally. Since the downturn in the economy, many more North American racing companies are seeking to expand internationally, and many have become quite good at it.'

Laguna Beach, California-based Kilroy first attended AUTOSPORT Engineering in 2002

(PRI has been an exhibitor since the very first show, not missing one to date). It has been a regular part of his calendar since then. He is a journalist by trade, starting as a reporter for a small daily newspaper in Southern California, then joining PRI to edit its own, business-to-business magazine back in 1990. He took over managing the operation when founder Steve Lewis, owner of the Nine Racing midget team and father of racer Michael Lewis sold it to the SEMA organisation.

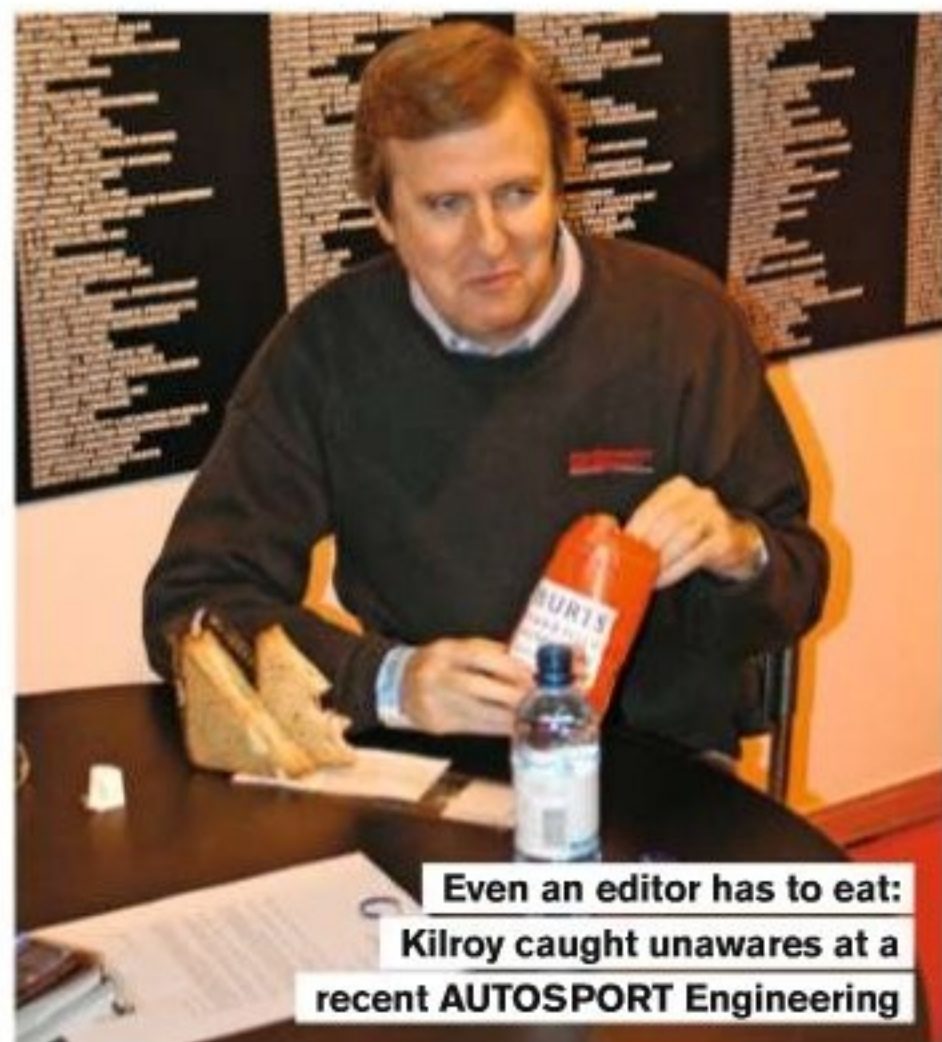
"I had been a racing fan since I was a kid," Kilroy says. His job has given him plenty of opportunity to get closer to the sport.

"When I visit a race track, I typically start off with business objectives for PRI, but it doesn't take long for me to become another fan. I am still astounded at every pass I see by a Top Fuel dragster or Funny Car, I love the 24 hours of Le Mans for its hi-tech, while an F1 car is still a thing of amazing beauty to me."

He recalls being the guest of a supplier on a yacht at the Monaco Grand Prix. "I was the least glamorous person in a 25-mile radius."

Kilroy's first love, though, is for wingless Sprint cars. "It gives spectators breathless moments lap after lap, and you can see drivers hard at work. Just add cold beer and a good seat in the grandstands and I'm happy." ❧

"It's been fascinating to watch racing companies break through barriers"



Even an editor has to eat: Kilroy caught unawares at a recent AUTOSPORT Engineering



Kilroy's first motorsport love is a wingless sprint car in action

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The University of Bolton is a leader in developing its students through an advanced performance engineering career experience in the classroom, in the workshop and on the race track. Bolton is one of the first universities in the UK to have an

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