



HOW SPORTSCAR RACING IS PREPARING FOR THE NEXT 20 YEARS

FUTURE

PERFECT?



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Photo: Porsche

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Resources are getting pretty scarce on this planet: *Jake Yorath* looks at how scared we should probably be.

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Alex Roache looks forward to what technologies are shaping the future of sportscar racing.

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How will today's sportscar series be viewed in the future? *Dan Bathie* investigates.

EVENTS

l'endurance is:

Jake Yorath (editor)

Alex Roache (deputy editor)

Dan Bathie (sub editor)

Brecht Decancq (photographer)

James Boone (photographer)



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Check out what's happening this coming month with our handy events matrix.

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The American Le Mans Series starts in Florida in March. *Jack Evans* looks at a vintage field.

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ARTISTS' IMPR

The l'endurance photographers share some of their favourite photos fr

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“The exit of Chapel corner at Silverstone is a wonderful place to stand. A V8 in the back of a Mosler is thumping its pistons frantically in a fantastic rhythmic sound at this point.”

Dan Bathie

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“Why? It's the most unexpected shot, the car just stopped and I was at the right place. I only had about five seconds before al the smoke would be vaporize and just captured it the right moment.”

Brecht Decancq

14



“The high banked turns at Daytona present a unique opportunity for sports car photography as there aren't many tracks where you can get kind of high angle shot of the car (unless you have access to shoot from a helicopter). The Brumos Racing Team is legendary at the Daytona 24 which, for me, adds to the impact of the image.”

James Boone

SESSIONS

from 2010, from Sebring, to Spa, to Silverstone.

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“Strakka Racing's Danny Watts en route to LMP2 class victory at the 1000km of Silverstone. The circuit's new Arena section may be fairly bland to look at, but it offers some interesting angles and opportunities for photographers.”

Alex Roache

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This photo will for me always be my favourite. It's a nice photo, one I am particularly proud of. But the reason it's my favourite is because of what my good friend Neil Tozer said when he saw it; “Fuck, I'll give up now.”

Jake Yorath



Artists' Impressions
Dan Bathie used a Nikon D50 and 70-200 F4-5.6
Nikkor. Shutter speed 1/20th at F18.





MOSLER GT CUP

MMC MOTORSPORT INSURANCE

DIXONS

6



In
FOCUS

Artists' Impressions
Brecht Decancq used a Nikon D300s and 70-210
F2.8 Nikkor. Shutter speed 1/200th at F2.8.

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Soc

RACING

SPEED

l'endurance are going to Le Mans this year. W



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Artists' Impressions

James Boone used a Nikon D40 and 70-210 F4-5.6 Nikkor. Shutter speed 1/20th at F4.8.



In
FOCUS

Artists' Impressions
Alex Roache used a Canon 40D and 70-200 F2.8
Canon. Shutter speed 1/10th at F25.





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Artists' Impressions

Jake Yorath used a Nikon D200 and 80-200 F2.8 Nikkor. Shutter speed 1/30th at F10.





4

Araldite

Plus

Matmut

plus

Araldite

TOTAL

In
FOCUS

Sheik Zayed Road. Dubai, 2am.
James Lipman used a Nikon D3 and 18-70 F2.8 Nikkor. Shutter speed 1/8th at F4.





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March



This month, *l'endurance* photographers will be at the British GT Media Day, and the Sebring 12 hours. photography@l'endurance.co.uk

EV

British GT MEDIA DAY

Silverstone, March 8

The Avon Tyres British GT Championship returns for 2011 with a media day at Silverstone circuit. Invited media only.

Le Mans Series TEST DAYS

Paul Ricard, March 11-12

Europe's premier endurance racing series is staging a test day again, though numbers may be down with Sebring just one week later.

Grand Am GRAND PRIX OF MIAMI ROUND 2

Homestead, March 4-5

After a roaring start at the Daytona 24 Hours produced fantastic racing across the field, Grand Am's regular season begins at Homestead Speedway for the Miami Grand Prix.

The big names may be off doing their regular NASCAR, IndyCar or punditry, but it still promises to be a cracker with no shortage of talent to provide the scintillating action that this series is so well known for.



**MUST
SEE**

ALMS + ILMC SEBRING 12 HOURS ROUND 1

Sebring, March 16-19

The Sebring 12 Hours needs no introduction and again, the ALMS curtain raiser looks set to be a classic. Featuring arguably the world's best GT2 class alongside an Audi .v. Peugeot battle set to thrill again, this is an event not to be missed.

UK Coverage: TV TBC, radio at RadioLeMans.com all four days including full 12 hour broadcast.

EVENTS



GT1 World **ABU DHABI** ROUND 1

Yas Marina Circuit, March 26-27

**HOT
PICK**

The FIA GT1 World Championship heads over to the Emirates to begin its 2011 tour. Expect fast paced action and more overtaking than the last ten years of Formula One.

UK Coverage: Live on GT1World.com/tv

Photo: DPP/ GT1World.com



Photo: James Boone

ALMS

CLOCK WATCH



Sebring is part of the ALMS. It is part of the ILMC. But all official series aside, it is part of Le Mans. The bright sun and palm trees can be deceiving. The pickup trucks and country music may seem better suited to a NASCAR race than this French endurance classic, but you only have to look at the track to see a Ferrari, Jaguar or Aston Martin, and it all comes flooding back.

For years the twelve hours has been the dress rehearsal for the 24. It is no coincidence that over 30 of Sebring's record-tying 59-car grid are headed to France this July. It is the second most important race of the year, a place to test new machinery, new spirits, new enemies. The location may be Sebring, Florida, but the spirit is La Sarthe; the race is Le Mans.

Audi will return to chal-

lenge the reigning Sebring winners Peugeot after sitting out the 2010 race, but the French team plans to fight back with a pair of brand-new factory 908s, in addition to a year-old 908 HDi FAP in the hands of their partner team, Oreca Matmut. Stephane Sarrazin and Franck Montagny, both winners of 2010's Petit Le Mans, will team with Nicolas Minassian in the number eight car, while Anthony Davidson, Alexander

ERS

Half the length definitely does not mean half the action at the Sebring 12 Hours. At the start of another American Le Mans series, *Jack Evans* looks at the major players for this year's event.



Photo: James Boone

Wurz, and Marc Gené look to defend their Sebring win in the number 7. Only Nicolas Lapierre and Loïc Duval have been named to pilot the number 10 Oreca, as a third driver is yet to be confirmed.

Audi is expected to race their recently-unveiled R18 coupe for the first time at the 1000 Km of Spa-Francorchamps this May, and will run an upgraded interim model of the successful R15 TDI, the R15 TDI Plus

Plus, in Florida. The Le Mans-winning trio of Mike Rockenfeller, Romain Dumas, and Timo Bernhard will run the number 1. 2009 Sebring winners Tom Kristensen, Rinaldo Capello, and Allan McNish will reunite in the number 2.

It's easily one of the great racing rivalries of the decade. Audi's new car was not ready in time for last year's race, and their appeals to run an outdated model were vetoed

“
SEBRING IS PART
OF THE ALMS.
THE ILMC. BUT
ALL THAT ASIDE,
IT IS PART
OF LE MANS



STEFAN LUHR
KLAUS GROS
LUCAS LUHR

6

americanmentor.com
M
K

EXTRA

MICHELIN

Photo: James Boone

Cytosport switch to Aston Martin for 2011, bringing aural sex to the states once more.





by the eventual winners. Peugeot's triple-engine-blowout and suspension failure handed the German team a podium sweep at the 24 Hours. Audi then lost Petit Le Mans after a clever strategy by "The Lion" saw McNish stuck behind the second, noncompetitive 908. Things only got worse when a "wardrobe malfunction" blinded the Scot's teammate and forced an early driver change, dropping Audi to their eventual third place. With both of these teams fighting for Le Mans supremacy, an exciting race is assured as long as they both last.

While most of the attention will be on the two great rivals, they are not the only prototypes going for points.

After two years with Porsche and a solid second place in the 2010 American Le Mans Series, Muscle Milk Team Cytosport will be making the switch to an Aston Martin Lola B08/62. In the hands of Porsche and Audi veteran Lucas Luhr, the new Muscle Milk AMR set the fastest lap for all four days of the Sebring winter test.

Muscle Milk ran in the LMP2 category last year, but will step up to P1 alongside reign-

ing ALMS champions Patron Highcroft Racing. With ex-Peugeot stars David Brabham and Simon Pageneaud joining Marino Franchitti at the wheel of the HPD ARX-01e, the team is looking to capture a third consecutive LMP title.

Muscle Milk and Highcroft are the two quickest ALMS regulars, so their fight behind the faster-paced Audi/Peugeot battle will be a close run for long term points outside of the podium. With just 23 points between the two at last season's end, a new rivalry may be in the works, and the end of the



Acura team's dominance could begin.

A second Aston Martin will be run as a factory car in the iconic blue and orange seen on the 007 and 009 cars at Le Mans. Aston's single-car effort at last year's Sebring was the only real challenge to the two Peugeots, eventually coming in third. What it may lack in speed, however, it more than makes up for in the engine's thrilling whine.

Other notable P1 challengers include the Mazda Lola from Dyson Racing and a pair of OAK Racing Pescarolo Judds.

Finally, there comes Swiss team Rebellion Racing. Their relationship with Toyota may be in its infancy, but the fact that the team has been chosen by the Japanese car giant over plenty of other candidates sends positive signals. With the strong Lola chassis and drivers Neel Jani and Jeroen Bleekemolen joined by the improving Nico Prost, the team could well be set for great things.

While only the prototypes will fight for the overall win, an equally fierce and exciting battle is assured in the GT

class which, over the years, has produced some of the ALMS's greatest finishes. Think back to Sebring 2007, where Jörg Bergmeister's Porsche swapped the lead back and forth with Jaime Melo's Ferrari one last time through the famous Sunset Corner before losing by less than a car length. Or, more recently, Road Atlanta four months ago when the same Ferrari ran out of fuel with mere minutes left in the race, handing the win to Corvette and the Driver's title to Flying Lizard. And with class newcomers BMW and Corvette having two full seasons under



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THE GT CLASS,
OVER THE
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ALMS'
GREATEST
FINISHES

Ferrari and Porsche do battle again, but Risi have the new 458. Photos: James Boone



Highcroft step up to P1 with their ARX-01, by dint of new regulations. Photo: James Boone





“ HIGHCROFT ARE LOOKING FOR A THIRD STRAIGHT LMP TITLE

their belts, the Porsche and Ferrari era looks threatened. 2011 could see the emergence of a new GT dynasty, but it will certainly see a great battle.

Risi Competizione won last year, and Jaime Melo has been confirmed alongside Toni Vilander in the car.

Making its debut at the 12 hours, the new F458 Italia racer will be supplied to a selection of the Ferrari's clients in addition to Risi. Extreme Speed Motorsports will enter a pair and Luxury Racing (featuring the impressive Makowiecki and Ortelli combination) a single car. The final 458 goes to European 'works' squad AF Corse team, who bring huge punch with Bruni, Fisichella and Kaffer.

Flying Lizard Motorsports will continue to run two Porsches with last year's champions Jorg Bergmeister and Patrick Long staying together in the 45.

For the fans in the trackside motorhomes, team pride is shown through flags, and the yellow and black skull of the native heroes always flies the highest. Corvette Racing will field two ZR1's with Olivier Beretta, Antonio Garcia and new addition Tommy Milner in 03 and Jan Magnussen, Oliver Gavin and the other new face in the Corvette camp, Richard



Photo: James Boone

Corvette have a new livery and new additions to their line up. They are strong, as ever.



Westbrook in 04. Their past mistakes, including a pit lane collision last year, have clearly taught the team a lesson, as they seem to get batter every race.

BMW Motorsport has confirmed two M3s, Augusto Farfus joins Bill Auberlen and Dirk Werner in the 55 while touring car great Andy Priaulx is teamed with Dirk Müller and Joey Hand in 56.

Robertson Racing remains the only team in the ALMS in the iconic Ford GT. Save for a shock pole position at 2009's Petit, the husband-wife duo has struggled in the past.

Jaguar RSR is looking to improve on a difficult 2010 debut season in a pair of XKR's. Reliability problems plagued the cars last year, and the team finished few races.

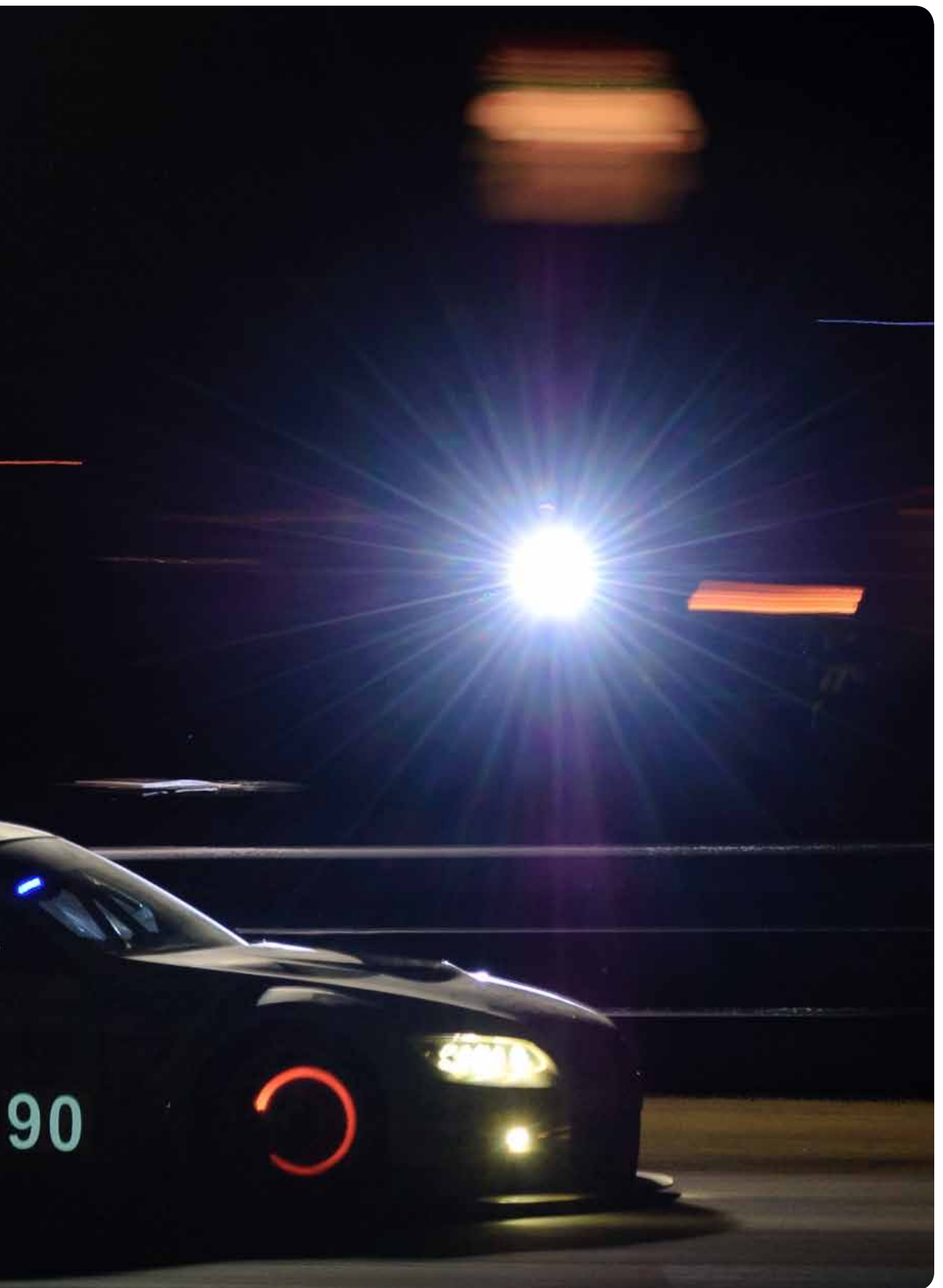
Rookie entries include West Yokohama Racing in the Series' only Lamborghini LP560-4, and

Panoz Racing in the radical Abruzzi Spirit of Le Mans- a car scheduled to race at Petit last year until it was delayed.

Sebring is considered America's Le Mans; the same but different. It's only 3.7 miles a lap, only once around the clock, petit if you will. There are things here that cannot be replicated anywhere else in motorsport. The sight of a first-corner prototype battle coming out of the Sunset bend. The smell of gasoline, exhaust, and fried chicken. The whine of an Aston Martin's V12 over the rumbling of tires against the checked white runway surface. These are only available for one weekend a year at a racetrack in central Florida. There is a reason this the season opener. Le Mans is a tough act to precede, and no race does the great 24 Hours justice better than the 12 Hours of Sebring.

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NO RACE DOES
LE MANS
GREATER
JUSTICE THAN
FLORIDA'S 12
HOURS OF
SEBRING





90

SPEED

l'endurance are going to Le Mans this year. W

CHILLS

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Photo: Porsche



FU

FUTURE

PERFECT?

Past **RETROGASM**

Page 17

Classic racing series are regularly remarked as 'the good old days'. Will today's series be the same?

Present **BAD NEWS**

Page 19

Is the oil really running out? If it is, how quickly is it running out? Should we be all that scared, really?

Future **HOPE?**

Page 19

If there is a future to motor racing, then it is in new technologies. We explore the green side of racing.



RETROGASM

Dan Bathie examines how we view the old days and how modern racing will stack up in the future. Is Group C really any better than the Le Mans Series?

This issue is about the future, so obviously I have decided to look back at the past. Sportscar fans will often get misty eyed when thinking back to “the good old days” so that got me thinking, how will the last few years of sportscar racing be viewed in the future? (See, I managed to get the future in!)

Probably the time that evokes the fondest memories is the Group C era. I was born just as Group C was coming to an end so never actually witnessed the turboed beasts in their prime myself, but seeing some of them come back to life at the Le Mans support race was captivating and spent many hours watching old Le Mans videos online. Motorsport at least for me is about speed, colour and noise so the Group C cars tick all the boxes. Not only were the cars hugely powerful in their presence but they were draped in some of the most iconic liveries of all time. Choosing a favourite is like deciding which one of your children you like most. I can see why they were so popular.

The 1970s were also special times for sportscar racing with their own particular ambience and beauty. I recently came across the film ‘Speed Merchants’ which followed the 1972 season. Narrated by Vic Elford and Mario Andretti, the film shows behind the scenes

footage of the great races such as the Daytona 24hr, Sebring and Le Mans, but it was another race that I fell in love with - The Targa Florio. I had heard about this race before but actually seeing footage was something else. A Ferrari 312P being chased by an Alfa 33T3 through the beautiful hills and remote small villages of Sicily is simply breath taking, for me no other race can ever compare to that. It saddens me that there will never be a race with quite the same magic again and that I never got to go and see it for myself.

This brings me onto the more modern times of racing. My

first memory was visiting Donington Park in 1997 for the FIA GT Championship: even though I was six I was instantly hooked on sportscars and subsequently had visits to Donington as my birthday treats for the next five years or so. I look back on the late 90’s early 2000’s with fond memories as a result. I loved the cars that used to race: McLaren F1’s , Porsche 911 GT1’s, Chrysler Vipers and Lister Storms filled my young head. Back then the British GT Championship was also filled with the big GT1 cars. It was brilliant. Since then the British GT Championship has had a few tough years but has recently picked up again and 2011 looks to have a good entry list.

Conveniently that brings me back to the opening question: how will the last few years of sportscar racing be viewed in the future? Well the FIA GT Championship despite being dominated by Vitaphone did produce some excitement and grid sizes stayed strong right up until its end in 2009. The successor to it the GT1 World Championship was arguably one of the best championships we have seen in a long while, large grids and fantastic racing will surely see people looking back in years to come and saying “That was a great year”. The same can be said for Ratel’s other (now less new) creation, the GT3 Championship. In its five years it has cemented it-

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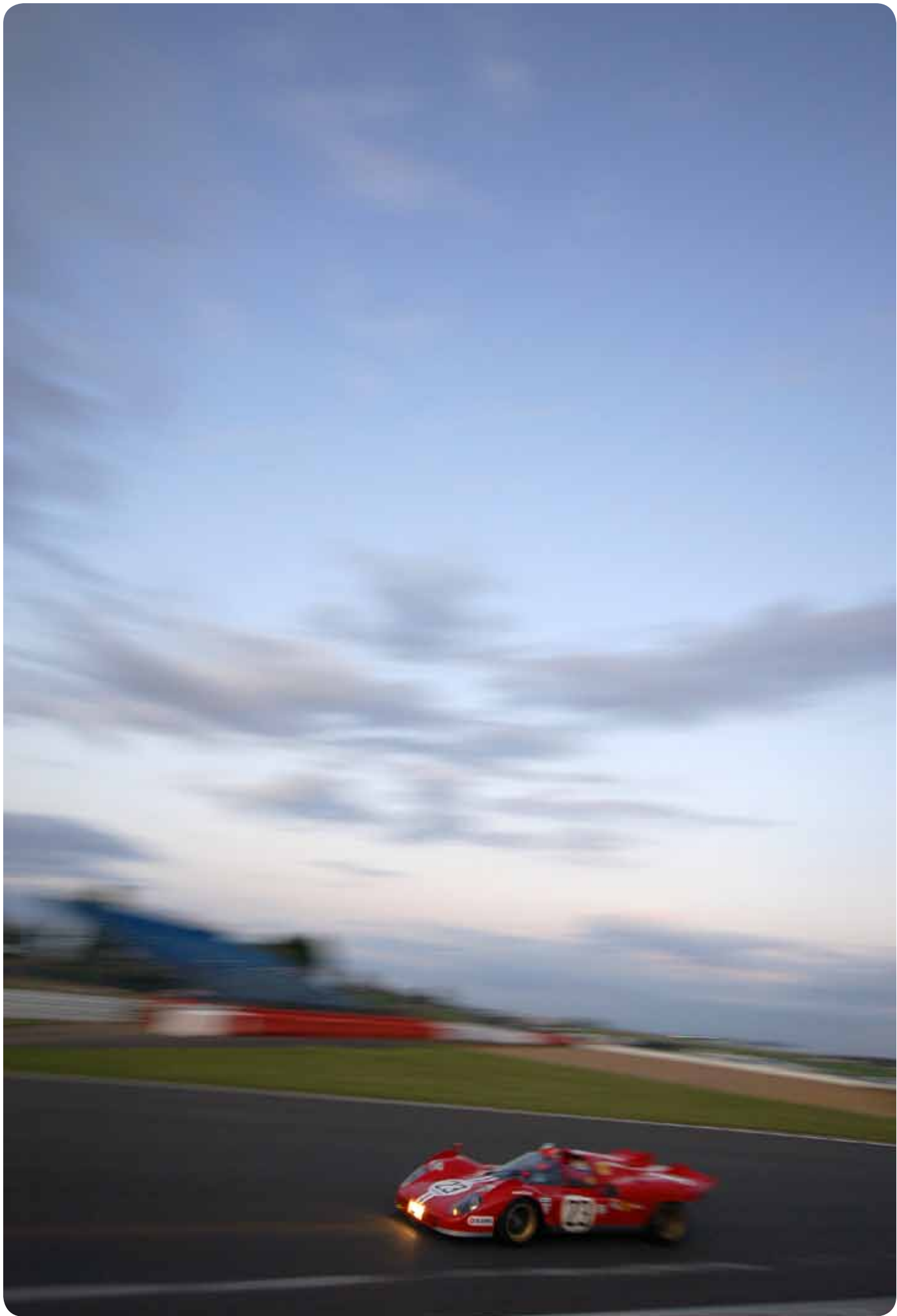



Photo: Jake Yorath



“
MOTORSPORT IS
ABOUT SPEED,
COLOUR AND
NOISE. GROUP C
TICKS ALL THE
BOXES

self as a brilliant championship, not just a feeder series for GT1 while also creating the basis of many national championships. His brand new championship, the Blanchipain Endurance Series is looking to follow in the footsteps of his recent successes. Ratel seems to have got his formula right- Ok, so the cars are performance balanced but look at what Formula One is doing to try and create better racing!

The Le Mans Series while not delivering classic racing years have had some memorable races (mainly at Spa between Audi and Peugeot!) The diesel revolution somewhat killed LMP1 as one class instead having a separate battle between petrol and diesel. The inter-

class races were often great but everyone except Audi and Peugeot wants to see petrol cars being able to challenge for victory. We will soon see if the new rules do that or not. 2009 mourned the loss of GT1 at Le Mans, Corvette triumphing for the last time in the class that was often the source of the fiercest rivalries and closest racing, mainly between the Pratt and Miller squad and the British Prodrive company. 2010 and GT1 returned to Le Mans this time for the final showing at the French classic and was somewhat fittingly won by a car that had been around for almost as long as the category itself, the Saleen S7R.

In recent years GT2 became the class to watch with

the boys from Stuttgart and Maranello contesting in some rather close racing more than a few times (type "Sebring last lap 2007" into YouTube if you haven't already seen it and watch a brilliant fight to the flag.) The addition of BMW and Corvette added extra competition to the class which already boasted many top marques and thus produced fantastic wheel to wheel racing often right until the chequered flag. Looking back you've got to say that the last five years or so have been great years for sportscar racing; as good as Group C? Probably not, but who knows - in 20 years we could be witnessing an almost silent electric Le Mans and wishing for the good old days of 2010!



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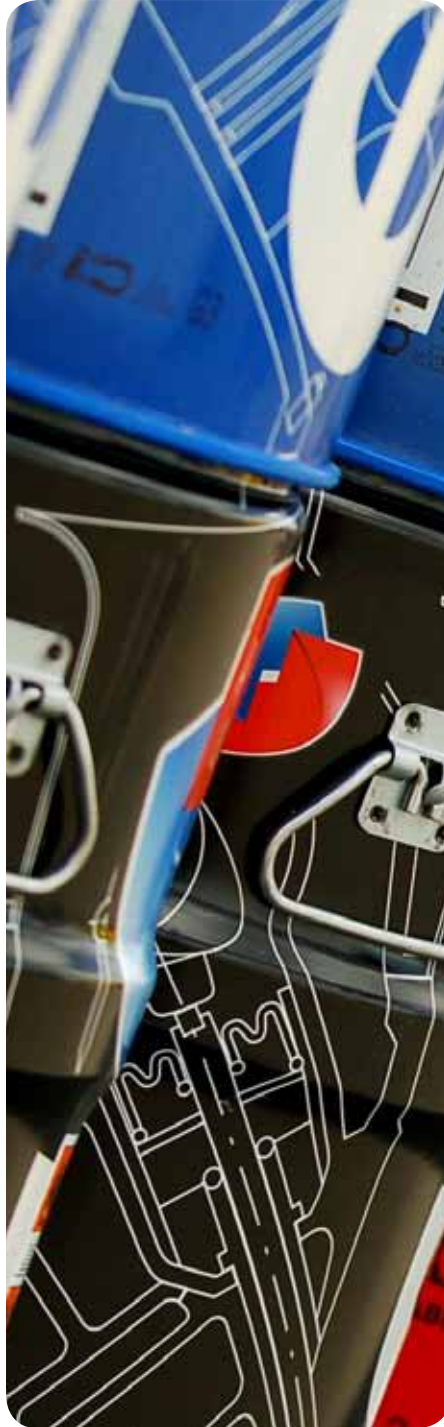
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In
DEPTH

BLACK GOLD

Oil. We
Jake Yor



rely on it for almost everything we do.
math gives a little context.

Oil is probably the most important currency in the modern world. We rely on it far more than we probably should and so, here's a few statistics. They make technologies like hybrids, biofuels and hydrogen fuel cells that much more important.

Oil, unfortunately, is extremely inconvenient. It's dirty, it's expensive and it's running out. Let's start with how much we use and how much is left.

The Peak Oil Theory is a slightly frightening idea. In basic terms, it states that our oil production increases to a peak and then falls away again in a bell curve. Human beings (of which there are roughly 6.7 billion) burn 1,000 barrels of crude oil every single second. In 2007, 85.24 million barrels of oil were produced every day and the International Energy Agency (IEA) believes that this will fall 6.7% every year from now.

However, some experts still believe that the peak is not yet reached. A 2008 study by Cambridge Energy Research Associates (CERA) showed that, though they agree there is decline (an average decline per oil field of 4.5% per year), new projects over the coming decade could well offset this fall

and the report concluded that a 2017 production level could well be 100 million barrels every day.

The cost is also becoming a serious issue. In the UK especially, prices of petrol are steep, coming in a shade over one and a quarter of your hard earned pounds for a single litre of nectar. Despite attempts by The Organization of the Petroleum Exporting Countries (OPEC) to keep prices down as low as \$22-28 barrel, the price has risen considerably. As it stands, the highest price per barrel was recorded on June 30th 2008 - a staggering \$128 per barrel, having risen from around the \$30 mark in 2003 but falling slightly at current prices.

With current unrest in the middle east, where a large portion of the world's oil is found, that price seems unlikely to fall anytime soon.

So what about sustainability? Many studies have now concluded that the Western way of life is either partially or totally unsustainable. We are using oil, specifically, not only faster than it is formed in the earth but there are worries we may soon outstrip the production of crude itself.

We've simply got to use less. And for that, I hand you over to my colleague...



“
OIL IS
INCONVENIENT.
IT'S DIRTY, IT'S
EXPENSIVE AND
IT'S RUNNING
OUT.”

In
DEPTH

FUTURE. TECH.

Technology could well be the key to the future. What does that future

The Semmering hill climb of 1900 isn't exactly considered a landmark event in the annals of motorsport. Set against the stunning backdrop of the Northern Limestone Alps in Austria, the speed trial was dominated by a pair of Daimler Phoenixes in a display of German muscle, but it otherwise passed without incident.

While the brawn of Daimler won the day, however, it was a lowly entrant by the name of Ferdinand Porsche whose brainchild - the Lohner-Porsche Semper Vivus - is recognised by engineers today as being a century ahead of its time. The 25-year-old had designed and was behind the wheel of the first hybrid racing car ever to enter a motor race.

Young Herr Porsche had all the right ideas; it was technology that was holding him back. In a radical departure from the more conventional front-mounted four-cylinder drive systems of the Daimlers and Panhards, Porsche - along with his business partner Jacob Lohner - had devised a mid-engined machine with a generator powering two hub-mounted electric motors on each of the steered wheels.

It was an ingenious solution. Not only did the front wheels provide drive without the need for heavy transmission components, they also made the Semper Vivus a powerful, well-balanced, point-and-squirt hill

Photo: Porsche



LOVE. SOUNDS.

hold? *Alex Roache* comes over all Arthur C. Clarke.





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WILLIAMS
HYBRID POWER
LOOKED BEYOND
FORMULA ONE.
IT WAS
ENDURANCE
RACING'S GAIN

climb car. Its Semmering debut was hampered by unreliability, but it had its days in the sunshine.

But in an age when a carbon footprint was what the chimney sweep left behind, and global warming was about as high on the international agenda as surrender to the British Empire, the Semper Vivus simply had no place. It was enormously expensive to race compared with conventional cars, and there was no pressing need for such unusual, pricey technology - no critical CO2 levels, no melting ice cap. The world was underwhelmed, and the

Semper Vivus hybrid project was abandoned.

There's a satisfying symmetry, therefore, when you fast-forward 110 years to today's 'green' motorsport scene and find Ferdinand Porsche's legacy not only at the cutting-edge of eco-friendly racing, but pioneering an innovation which - at a rudimentary level - has one or two ideas in common with his original vision. The German marque's 911 GT3 Hybrid R is very much at the forefront of green racing today, and is already making its mark alongside the clean diesel and biofuel entries.

Porsche was treating 2010

as a 'test session' for the GT3 Hybrid R, but it nevertheless came within a whisker of scoring an historic victory in last year's Nürburgring 24 hours. Drivers Jörg Bergmeister, Richard Lietz, Marco Holzer and Martin Ragginger led for over eight hours only to fall victim to a technical issue - ironically, with its conventional combustion engine - with the chequered flag in sight. An impressive run to sixth overall in the Intercontinental Le Mans Cup's 1000kms of Zuhai rounded off a decent debut season for the car, and in 2011 nothing less than regular victories will suffice for Porsche.

So what is it about the technology nestled under the GT3 Hybrid R's shell that's got everyone so intrigued? Quite apart from the novelty value of shar-



Photos: Porsche



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WHAT IS IT
ABOUT THE
TECHNOLOGY
NESTLED
UNDER THE GT3
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SHELL THAT'S
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ing the same bedrock theory as its century-old ancestor - its hybrid system delivers a transmission-less surge of power to the steered wheels via two electric motors - the Porsche, when it was launched last year, was unique on the motorsport scene in its use of an electrical flywheel power generator to supplement the rear-mounted 480bhp flat-six.

The flywheel generator is rather different from the battery system used in other hybrids - most notably last year's ALMS podium-scoring Corsa Motorsport Ginetta-Zytek GZ09HS, which before the GT3 Hybrid R burst onto the scene was deservedly the most celebrated of the various petrol-electric machines gracing sportscar racing. It uses the same principle of 'regenerative braking' - i.e. harnessing the massive energy dissipated when the drive stamps on the middle pedal - but it's much more efficient in the way it uses that energy.

And here's why: the same electric motors which drive the front wheels have their function reversed under braking, recovering the energy and spinning the centrally-mounted flywheel generator at speeds of up to 40,000 rpm. Since the kinetic energy is stored mechanically (as rotation energy) rather than chemically (like in a battery), it doesn't undergo

an inefficient conversion to another energy form before being 'summoned' by the driver again via his boost button.

When the driver hits that magic button, the flywheel is slowed down electromagnetically and delivers the six to eight second 120Kw (160bhp) boost to the steered wheels via the two front-axle-mounted electric motors - having the dual effect of conserving fuel and making the GT3 Hybrid R four-wheel drive (temporarily at least). It's hardly surprising this car chewed up the 'Ring.

If this is all sounding a bit reminiscent of KERS in Formula One, then there's good reason. And, in a way, it's the same reason why green technology in motorsport isn't ten years more advanced than it ought to be - but we'll get to that in a moment.

Porsche's flywheel technology was developed by Williams Hybrid Power, a division of the Grove-based Grand Prix team. It's more or less the same technology that would have gone into the KERS system in this year's Williams-Cosworth FW33.

However, because the fuel tanks in F1 cars are so huge following the refuelling ban, Williams couldn't fit its more advanced flywheel KERS system into the car. So the team made do with the less efficient but more flexibly-packaged battery system, and Williams Hybrid Power looked beyond F1 to other series where the flywheel system would be ac-

cepted. Porsche came calling.

It was F1's loss, and endurance racing's gain. But it nevertheless highlighted the perennial problem that has faced environmentally-friendly innovation at the leading-edge of motorsport. Everyone in the sport is perfectly aware of the threat of increasingly expensive and depleting fossil fuels, rising CO2 emissions and - to top it all off - the struggling world economy, but the unfortunate trend has been for the oppressive financial climate and consequent swing toward cost cutting to be accompanied by governing bodies clinging to rigid legislation which stifles change. The result is that a lot of motorsport is regulated towards inefficiency.

Energy efficient paradigms such as the Zytek hybrids and the Porsche 911 GT3 Hybrid R do a lot to excite, inspire and draw attention to certain eco-friendly initiatives in the sport, but they have all too often represented exceptions to the resource-guzzling rule.

Only now that high-profile racing series - and not just a few teams - have properly shifted their weight behind a genuine low carbon agenda is the establishment likely to be shaken enough to get things really moving on motorsport's green scene.

Endurance sportscar racing's own American Le Mans Series and - thanks to new, more open regulations from the Automobile Club de L'Ouest (ACO) - its European counterpart, the Le Mans Series, both stand head and shoulders above other top level categories when it comes to advocating and delivering cleaner technologies for racing.



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This isn't exactly news for anyone who's been following these series closely for the past few years, but the sheer amount of press coverage generated by the Porsche 911 GT3 Hybrid R's outings in the ALMS and LMS at the end of last year - at Road Atlanta and Zuhai respectively - is a sign that their emphasis on the environment is creeping slowly but surely into the public awareness.

And it's about time. Back in 2002, the UK's Motor Industry Association (MIA) commissioned a study to investigate what role motorsport could play in the development of energy efficient technologies which could filter down onto road cars.

It drew a resolute conclusion: owing to its history, prestige and strong manufacturer involvement, sportscar and GT racing - particularly through its association with the world's most famous race, the Le Mans 24 hours - is uniquely positioned to lead and promote the advancement of renewable fuels and alternative energy sources. We're talking hybrids, biofuels, diesel and - eventually - hydrogen-power and pure electric vehicles.

Even prior to the MIA verdict, the ALMS fraternity was way ahead of the game. At the birth of the Petit Le Mans in 1998, Panoz Motorsport fielded its Esperante GTR-1 Q9 fitted with an electro-hybrid motor built by British engineering specialists Zytec in a bid to improve fuel efficiency. Unfortunately, although the series' regulators, the International Motor Sports Association (IMSA), welcomed it with open arms, the technology was in its infancy and was far too heavy to give

a competitive edge. Panoz and Zytek received a pat on the back for effort, and the system was shelved.

But in a Porsche-esque demonstration of 'what goes around comes around' in sportscar racing, the Q9 Hybrid - or 'Sparky' as it became affectionately known - had used a regenerative braking and battery package similar in principle to Zytek's Q10 system which just over a decade later would claim the first ever hybrid Le Mans Prototype podium with Corsa Motorsport at Lime Rock in 2009.

Evidently hybridisation in sportscar racing is a concept which - with the encouragement of the IMSA and the ACO - has come a long way, and it's beginning to find its feet on the green carpet of eco-aware motorsport.

Lest we forget, however, which alternative energy source is largely responsible for our traditionally gas-guzzling sport developing an environmental conscience, let's flashback to 2003 and the opening round of the ALMS at the 12 hours of Sebring. While the Audi R8, at the height of

its dominance, was cleaning up at the head of the field, British squad Team Nasamax raised an eyebrow or two by turning out a Cosworth-powered Reynard prototype with something called bioethanol in the fuel tank.

Burning more cleanly than gasoline owing to its high alcohol content, the bioethanol was produced by distilling fermentable organic matter like potatoes, garden beet and Swiss chard. Once the team had shaken off the unfortunate but not altogether inaccurate moniker "the car that runs on vegetables", it set about achieving its dream of using this revolutionary biofuel to win Le Mans.

And while it didn't quite work out that way, Nasamax never-

theless set a remarkable precedent by finishing the race and clocking the fastest top speed on the Mulsanne Straight. Renewable fuel had arrived in endurance racing.

Nasamax's challenge faded in the mid noughties, but since then several teams have picked up the biofuel fuel mantle which in any other racing category might have been in danger of fading with them. The introduction of the 'MICHELIN Green X Challenge' to the ALMS in 2008 remains a vital milestone in the series' 13-year history, establishing as it has a system of recognition and reward for the most environmentally-friendly competitors - calculated by measuring energy consumed, petroleum displaced and greenhouse gases generated - regardless of where they finish in the normal points standings.

Five different energy sources battle it out for overall honours in the already-prestigious Green X Challenge: sulphur-free diesel, as raced by Audi and Peugeot; E10 ethanol-blended fuel, similar to that which was pioneered by Nasamax; Cellulosic E85 (85% etha-



Photo: Porsche



Photo: Panoz

nol blend), which took the Corvette Racing C6.R to GT-class victory in the inaugural Green X Challenge; Isobutanol-blended fuel, debuted by Dyson Racing in 2010; and, of course, the electro-hybrid systems bolted into the Porsches and Ginetta-Zyteks.

It's an eclectic and exciting bunch of race cars and technologies if ever there was one, and there remains little doubt over the positive impact the ALMS' sustainability initiatives are having on public awareness of green racing. But it nevertheless begs the question: where next for motorsport's green agenda?

The answer may well lie with Lord Paul Drayson of Drayson Racing. The team owner-driver is no stranger to scientific innovation, particularly where motorsport is concerned - not only did the former Minister of Science make his fortune as an

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entrepreneur in pharmaceuticals industry, he is also the only man able to boast breakthrough victories for biofuel racing cars in two different top-level endurance series.

At the British GT round at Snetterton in 2007 he steered his Barwell-engineered, E85 bioethanol-fuelled Aston Martin DBRS9 GT3 to a landmark first win against a quality field. Three years later in the ALMS, a dramatic thriller at Road America saw Jonny Cocker in the Drayson Racing “Flex Fuel” LMP1 Lola Judd - which, in another first, was adapted to be able to run on either Cellulosic E85 or E10 ethanol - sweep past the leading pair on the last lap to claim victory.

And yet despite his success in developing one renewable fuel to the point where it can compete and win at the highest level, Drayson is a staunch advocate of racing teams be-

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coming what he refers to as “rolling laboratories” - in other words, platforms for exploring and promoting all types of green technologies and alternative energy sources.

With the bioethanol box well and truly ticked, therefore, 2011 seemed the right time for a radical move. And that move came this week with the surprise announcement that Drayson Racing will be withdrawing from the ALMS to focus its efforts on winning the world’s first zero-emission, pure electric vehicle race series, the EV Cup.

It’s an exciting thought. After all, if it means Drayson will be back in endurance racing again one day harnessing the technologies his team will learn about this year, the sport has a lot to look forward to. Fancy a cutting-edge pure electric Le Mans Prototype? Or maybe a hydrogen fuel cell GT machine in British Racing Green?

Whichever way you look at it, motorsport is in the midst of a period of huge uncertainty, with exciting ideas bubbling away under its glossy, greener surface, and the simple truth is that nobody can predict which energy source will be powering the winner of the Le Mans 24 hours a century from now. But there is every chance that there’s another Ferdinand Porsche waiting in the wings, ready to plant the seed of an idea that will inspire the next generation of low carbon racing technologies.

l’endurance is excited - and you should be, too.



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GRAND AM ROLEX 24 AT DAYTONA

GANASSI COMPLETE THE 'CHIP SLAM' WITH HARD FOUGHT DAYTONA SUCCESS

Daytona International Speedway, Round 1, January 29-30 By Dan Bathie

Chip Ganassi Racing added the Daytona 24 Hours to the Indy 500, Daytona 500 and Brickyard 400 in 12 months to nail a historic 'Chip Slam'.

The Telmex/ Target Riley BMW, driven by Memo Rojas, Scott Pruett, Joey Hand and Graham Rahal claimed a narrow two second victory over their all-star team-mates Juan Pablo Montoya, Jamie McMurray, Scott Dixon and Dario Franchitti after a gruelling 24 hours. The result may have looked like Ganassi had it easy but that was not the case. The Flying Lizard team were the early pace setters as Jörg Bergmeister lead from pole position but an off-track excursion from Seth Nieman meant they lost 19 laps in the

garage and any chance of victory.

Both Ganassi cars suffered early troubles, the 01 car having a gear cluster changed due to the car hitting the rev limiter while the 02 had two punctures and the same gear cluster change losing two laps, it was soon to get them back when Montoya took over the wheel. The NASCAR driver wasn't making friends on track though, sideswiping the Suntrust and Gainsco cars in similar incidents. Nose changes during the night lost the car more time but cautions and pace saw them retake the lead.

Early Morning fog brought the race under caution for just under three hours and when the race resumed it

was the two Ganassi cars outfront the 02 leading 01. With two hours to go the 01 was given a penalty for hitting a tyre in pit lane. When Hand rejoined he was 50 seconds behind leader Dixon but a stunning drive saw him make up 30 seconds before he handed over to Pruett. This was where the race was won, a short fill during a caution allowed the 01 to leapfrog the Dixon when he pitted. A late caution set up a thrilling finish as Martin Brundle in the United Autosports car had a go at getting secondnd place on the last lap but the British ex Formula One star couldn't get the car turned in and had to settle for fourth just behind Joao Barbosa in his Action Express car.



Photo: James Boone

ROUND UP



UAE GT

TAM ARE DIAMONDS IN YAS MARINA

Yas Marina, Round 2, February 12 By *Jake Yorath*

It was a clean sweep for the Corvettes of TAM Auto Engineering and House of Portier at Yas Marina, as the American cars notched up a one-two finish overall in the UAE GT Championship, winning both the GTA and GTB classes in the process.

Karim Al Azhari and Fabien

Giroix managed to climb their way from the back of the grid in the UAE after a transponder issue left them without a decent recorded time in qualifying.

Second overall and top in the GTB class was the second House of Portier Corvette with Mohammed Al Mutawaa and

Jiri Skula driving. The MSW Porsche of Phil Quaife and Jon Simmonds scored third overall and second in GTB, with class fastest lap.

In GTC, it was Saad Salman who took his first ever win in the KTM X-Bow, with Robert Cregan's Maserati GT MC second.



Photo: Dirk Klynsmith / Armor All Bathurst 12 Hour

AUSTRALIA ARMOR ALL BATHURST 12 HOURS AUDI ON TOP AT THE MOUNTAIN

Bathurst, February 12 By *Sam Tickell*

The Audi R8 LMS dominated the 2011 Armor All Bathurst 12 Hours held on 05 February.

The German marque entered two factory supported cars as the international team of Darryl O'Young, Marc Basseng and Christopher Heis led home the Australian outfit of Mark Eddy, Craig Lowndes and Warren Luff.

The Audi squads were only bothered by the VIP Petfoods Porsche GT3R who were challenging for victory before an unscheduled pitstop in the final hour ended their run for victory.

The other major international entry was the Ferrari 430 GT3 of Hector Lester, Luke Searle and Allan Simonsen who suffered a variety of mechanical issues over the weekend and finished sixth overall.

There were relatively few incidents during the race with only one major incident when a tyre on the Vodka 0 Mosler exploded at the end of the Conrod Straight, resulting in a violent accident, sending the windscreen of the car to the top of a power pole. Fortunately the driver, Dean Grant suffered only minor injuries.

The Audi squad won class

A, class B for older model GT cars was won by Roger Lago, Matt Kingsley in David Russell in a Porsche 997 GT3 Cup car. Class C for GT Production cars was won by Beric Lynton, Matt Mackelden and Jody Modystach in a BMW M3. Class D for all wheel drive production cars was won by Peter Conroy, Anthony Robson and Mark Brame in a Lancer Evo X. Class E for rear wheel drive production cars was won by Bruce Tomlinson, Geoff Fontaine and Richard Gartne in a BMW 130i.

The winner completed 292 laps or just over 1802 km.



UK LE MANS THROUGH THE AGES

STOP AND STARE

Coventry Transport Museum, Until May 2 By *Tim Yorath*

Coventry Transport Museum have a compact and bijou Le Mans exhibition on at the moment, for those feeling the need in the dog days of winter.

Nicely laid out, with a blower Bentley, Speed Eight, XJR8/9, a 956 and 962GTI, Audi R8, Lola T297, 774RW Jaguar D Type, ADU1B Spitfire, and the 2003 Spyker, plus the museum's own Lea Francis Hyper, from 1929, that finished 8th overall. Plus info

boards, and videos of selected bits of LM history.

For those who live locally, it's worth dropping by. If you are not so local, but haven't been to the museum before, it's worth it as the 'cherry on the cake', because they also have have both Thrust Land Speed Record cars on show.

The best bit? It's free, and it's on until May 2nd.

1988 Le Mans winner Andy Wallace said, "It's great, seeing so many cars I've driven,

and remember seeing when I went as a kid. I'm having an absolute ball here!"

Nigel Webb, owner of the 1955 race winning D Type. "I'm surrounded by cars more important than my own..."

David Ingram, Audi UK. "I'm a passionate fan of Le Mans, and been going longer than I care to remember. I remember seeing the Jag win in 1988. It's great. I can spend a happy couple of hours wandering about here."





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