



THE JAGUAR
ISSUE 05, 2018

TREASURE ISLAND

JAGUAR XE 300 SPORT AND
PROJECT 8 TAKE ON SICILY

GOOD THRILL HUNTING

EXPLORE THE ART AND
SCIENCE OF MAKING THRILLS

ALL HAIL THE KING

IS A SELF-DRIVING I-PACE
HEADING YOUR WAY SOON?

DIFFERENT CLASS
WHY EVA GREEN PLAYS BY HER OWN RULES

JAGUAR STANCE

SHAPE YOUR REALITY



THE ART OF PERFORMANCE

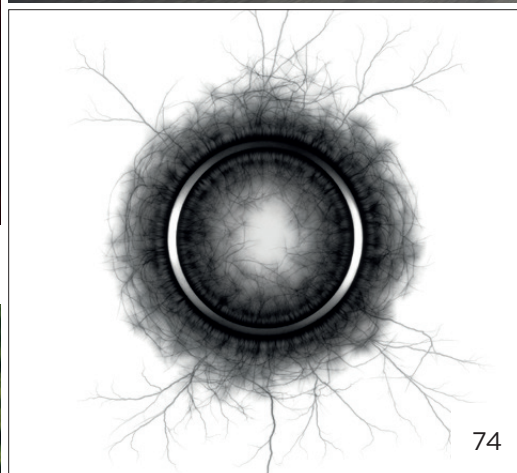


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COVER PHOTO: REBECCA MILLER



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IMAGES: REBECCA MILLER, JOHN WYCHERLEY, SEAN O'CONNELL, BRYN MUSSELWHITE, MAL CREASE, MARIO WAGNER

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The Foreword

WHAT SETS A JAGUAR APART? CHIEF COMMERCIAL OFFICER **FELIX BRÄUTIGAM** DELVES INTO THE BRAND'S IDENTITY - AND WHY IT MAKES FOR THE INGREDIENTS FOR A GREAT STORY



All great stories have great beginnings. Ours was penned 96 years ago, when Sir William Lyons, aged just 21, founded the Swallow Sidecar Company. Ever since - from the 2½-litre SS to the Le Mans race-winning D-type to the luxurious XJ - Jaguar's narrative has been one of path-breaking boldness. We have always taken great pride in creating cars with not only class-leading design and engineering, but also a distinctive sense of individuality. This drive to go against the grain and strive for the extraordinary is embedded in Jaguar's DNA, and runs into these very pages.

In this issue we meet enigmatic French actor Eva Green, who stars in Jaguar's new marketing campaign. The former Bond girl is certainly one of a kind, expressed in myriad ways - from the film roles she chooses, to her unusual hobbies and distinctive fashion sense. In an insightful interview (p.42), Green reveals what it takes to train as an astronaut, who'd make her perfect driving companion, and more.

Renowned motoring journalist Henry Catchpole encounters two impressive Jaguars, the XE 300 SPORT and Special Vehicle Operations' Project 8, in Sicily (p.20). After an action-packed drive on one of the world's best driving roads, he sent in an engaging account of two very special cars, built to excel both on the road and on the track.

We craft all our products to deliver sensory delight, a philosophy that is shared by the 'thrillmakers' we've portrayed on page 58, from racetrack architect Hermann Tilke to ski-run designer Bernhard Russi.

Challenging convention also means that we are always looking beyond the horizon with a view to shaping an exciting future. Jaguar's continued investment in electrification technology is a direct expression of this credo. Earlier this year, we launched the world's first all-electric performance SUV, the Jaguar I-PACE. Now, meet the first team to line up for the new Jaguar eTROPHY racing series, featuring a competitive field of I-PACEs, which begins this month (p.70), and discover how the I-PACE will help to redefine future mobility as we team up with autonomous ride-hailing service Waymo (p.50).

One thing is for sure - we are a long way from writing an ending to the tale. Enjoy the issue, and thank you for being a part of our story!



Felix Bräutigam
Chief Commercial Officer, Jaguar

JAGUAR SERVICE CENTRES

**LIFE HAS COMPROMISES.
YOUR JAGUAR DOES NOT.**




**EXCEPTIONAL SERVICE.
UNCOMPROMISED PERFORMANCE.**

Whether your Jaguar needs a service, vehicle health check or perfectly fitted accessories, no one knows your car like we do. Our highly trained technicians provide you with guaranteed expert care and maintenance to keep your Jaguar at the top of its game.

Come and see our Service Team at your local Jaguar Retailer – we offer everything your Jaguar will ever need as well as complete peace of mind.

THE ART OF PERFORMANCE



The background of the advertisement is a photograph of a winding asphalt road that curves through a vast, hilly landscape. The hills are covered in low-lying vegetation, possibly heather or grass, in shades of brown and green. The sky above is filled with soft, grey clouds, creating a diffused light across the scene. The overall mood is serene and expansive, suggesting a journey or a drive through nature.

EXPERIENCE SOUND ON THE MOVE LIKE NEVER BEFORE

We are the pioneers of high resolution audio and proud partners with Jaguar Land Rover. Our shared passion for quality, luxury and innovation drives us to create the most immersive sound whilst on the move. The twists, the turns and the rhythm of the road ahead. Each album, every song, in authentic and exceptional detail.

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MERIDIAN

The Curve

WINTER 2018

OUR LATEST ROUNDUP OF CURATED HIGHLIGHTS FROM THE WORLDS
OF DESIGN, STYLE, TECHNOLOGY AND INNOVATION

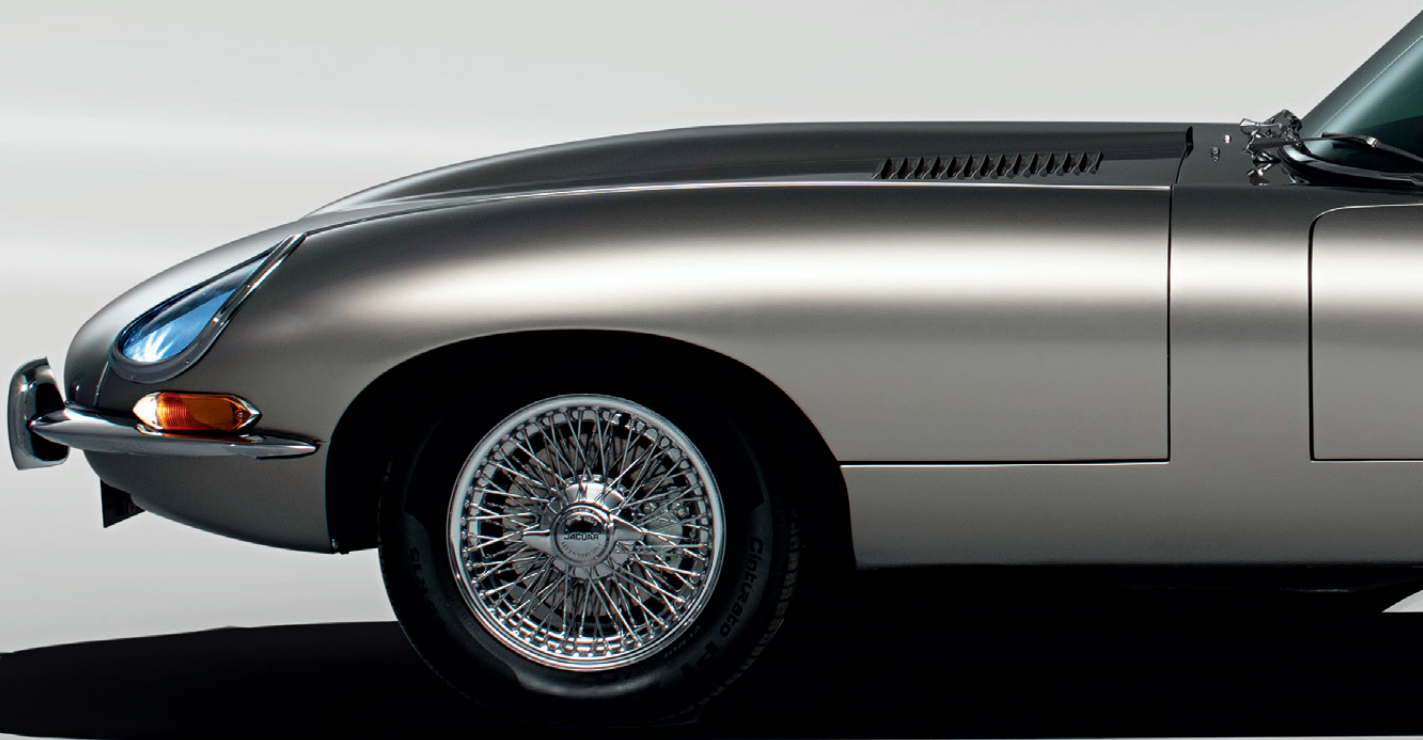
E-TYPE ZERO

BACK TO THE FUTURE

Following its debut in concept form in 2017, the all-electric Jaguar E-type Zero is now slated to go into full production from March 2019. Jaguar Classic has already gained worldwide acclaim for its E-type Reborn restorations, and now the Classic Works facility in Coventry, UK, will be offering fully future-proofed, restored E-types for tech-savvy classic car enthusiasts as well as those seeking efficiency, reliability and timeless design in one compelling, ground-breaking package. While the E-type Zero looks like its original forebear, under the bonnet it's all change: the E-type's venerable straight-six XK engine has been replaced with a bespoke electric motor, developing 220kW, that sends power to the rear wheels and will spirit this unique EV to 62mph in 5.5 seconds. The 40kWh battery delivers a range of around 170 miles (*official figure to be confirmed following commencement of production*) and can be recharged overnight. The lithium-ion battery pack, being of similar weight and dimensions to the now-departed petrol engine and transmission, means that the E-type Zero's basic structure has remained the same, allowing it to drive, handle, ride and brake just like a prime example from yesteryear. Indeed, aside from the electric powertrain, efficient LED headlights and optional modified fascia - which features a central touchscreen in the dashboard - the E-type Zero is largely original. And should its owner at any point decide to return to the E-type's authentic petrol-powered past, the EV conversion will be fully reversible. Truly, a classic car for the past, present and future.

To purchase a Jaguar E-type Zero, or to convert your existing E-type to an electric powertrain through Jaguar Classic Works, please contact a member of the specialist team on 00 44 (0)203 6011255 or zero@jaguarlandrover.com

PHOTOGRAPHY: DAVID SHEPHERD





The Curve

WINTER 2018



MOTORSPORT

A FRESH DOSE OF ENERGY

For its fifth season, the Formula E electric street racing series will be making a pit stop at the oil capital of the world – showing how electric vehicles are the future. The flag will drop on the season's first E-Prix in Riyadh, the capital of the Kingdom of Saudi Arabia, and “the perfect setting for the next phase of the ABB FIA Formula E Championship,” according to Alejandro Agag, founder and CEO of the race series.

Among the world's best all-electric vehicles chicaning their way around Riyadh's sleek skyscrapers and along the broad streets of the picturesque Ad Diriyah district this December will be the new Jaguar I-TYPE 3, Panasonic Jaguar Racing's next-generation Formula E race car. Propelled by up to 335 horsepower from its cutting-edge battery pack, supplied by McLaren Applied Technology, the I-TYPE 3 promises to be Panasonic Jaguar Racing's best model yet. The I-TYPE 3's extra power, efficiency and range will have team drivers Nelson Piquet Jr and Mitch Evans eyeing up the podium.

The Riyadh race will be the first of ten annual E-Prix to take place in the kingdom under a deal signed with the General Sports Authority and Saudi Arabian Motor Federation. It “offers the prospect of world-class racing on the streets of the capital for the first time in our history,” said His Royal Highness Prince Abdulaziz – and could perhaps inspire the car-loving locals to consider the merits of all-electric powered vehicles.

Visit fiaformulae.com for the full season calendar, team and driver information, race results and more

PHOTOGRAPHY: LAIF/MICHAEL RUNKEL/ROBERTHARDING



**IN RIYADH, THE OIL
CAPITAL OF THE
WORLD, FORMULA E
WILL SHOW THAT
ELECTRIC RACING
IS THE FUTURE**

The Curve

WINTER 2018



GEAR

RIDE THE WAVES

Wish you could walk on water? Well, now you can do the next best thing. Meet the Manta5, the world's most advanced hydrofoil bike. Ridden like a jetski but powered by pedals with assistance from an electric motor, the Manta5 hydrofoil bike allows you to cleave a path through the choppiest swells.

The frame is made of lightweight, aircraft-grade aluminium, and the 'wings' or hydrofoils of carbon fibre, which helps keep the New Zealand-designed craft's weight down to just 22kg, meaning you can carry it over your shoulder to the shoreline.

Once in the water, just start pedalling, and in seconds, you'll build up enough power to skim across the surface of the water at up to 9mph, thanks to the 400W e-bike motor, which is linked to a waterproof, rechargeable, lithium-ion battery.

The Manta5's sleek, ergonomic design makes it easy to transport – it can be packed into the boot of a car – so you can take it wherever you find open water. Your next seaside trip just got even more exciting...





LIKE WITH THE BEST CARS, FORM EFFORTLESSLY MEETS FUNCTION

URBAN LIVING

EMERALD CITY

While Berlin hogs the limelight for its trendy bars and thrumming startup sector, another Teutonic city has taken pole position: this year *Monocle* declared Munich the most liveable city in the world. The British global culture magazine singled out Munich's "excellent infrastructure", "booming economy" and "proximity to nature with appreciation for culture".

But it's the Bavarian city's environmental credentials that make it a cut above. Among its oldest eco-friendly initiatives is Green City e.V., set up by a handful of locals in 1990. Today it's a nearly 1,500-strong army of volunteers promoting a greener, more pleasant lifestyle, who have helped oversee initiatives ranging from the introduction of the Louie cargo e-bike, a large bicycle that can be rented for up to three days to lug heavy items across the city, to the annual Streetlife Festival, which transforms Munich's main street, the Leopoldstrasse and Ludwigstrasse, into a pedestrianised haven for more than 200,000 people.

But that's not all that's happening on the green front. The city's fleet of taxis has now been augmented with ten all-electric Jaguar I-PACE taxis, doing its bit to help to reduce the overall level of emissions, which is one of the highest in Germany. Rides in the new, green taxis will be subsidised by the municipality, making fares €0.20 cheaper per kilometre than the petrol and diesel alternatives. It's all part of an ambition to make Munich not just Germany's most liveable city, but also its greenest.



STYLE

FULL METTLE JACKET

Like with the best cars, form effortlessly meets function in this quality addition to your style repertoire. The Private White V.C. x Jaguar Driving Jacket is the result of a creative collaboration between Jaguar designers Ian Callum and Wayne Burgess, and the high-end British design house Private White V.C., who craft all their products in a century-old factory in Manchester, using fabric woven in the UK.

With performance fabrics, secure storage and an elegant cut, it is meticulously designed to be the ultimate car coat. It features a fully waterproof and windproof cotton Ventile outer, with a two-way Riri zipper for maximum comfort. The detachable, 100% wool flannel gilet is zip fastened, making the garment well suited for all seasons; you can wear the cosy gilet on its own as layering, use the jacket as outerwear for summer showers, or combine the two for colder weather. Eight pockets add plenty of versatility.

The Private White V.C. x Jaguar jacket is a limited-edition piece, with individually hand-numbered labels making this a real collector's item. Priced at £595, it is available in six sizes at shop.jaguar.com.

The Curve

WINTER 2018

MUSIC

DUA'S DAZZLING DUET

Like strawberries and cream, this British duet could be a classic. Chart-topping musician Dua Lipa has collaborated with Jaguar to create a special version of her catchy new track, 'Want To'. Lipa, a pop and R&B singer-songwriter – who, at 23, has already notched up two UK number one singles – drove Jaguar's all-electric performance SUV, the I-PACE (which is incidentally her first car). Dozens of data inputs picked up by the I-PACE's sensors, from throttle performance to regenerative braking, were crafted into innovative sounds and used to create unique remixes of Lipa's master track.

Lipa debuted the track at an exclusive Jaguar gig, featuring stunning data visualisation and laser performance, in Amsterdam in September. She said: "I love to push boundaries with my music and my performances, and this partnership takes things to an exciting new level. I'm excited to be trailblazing for the new electric generation."

Search for 'Dua Lipa x Jaguar' on YouTube, and create your own personalised version of the track at jointhepace.com/remix



I'M EXCITED TO BE
TRAILBLAZING
FOR THE **ELECTRIC
GENERATION**



SPORT

PUT YOUR BEST FOOT FORWARD

Whether you're a fun runner or a marathon man, the right shoe is vital – preventing blisters and stresses, while getting you fit. Now, the right shoe can even make you faster. Nike's Zoom Vaporfly 4% running shoe uses ultra-lightweight soft foam and a curved carbon fibre plate to improve performance by, you guessed it, four per cent. The sole helps propel the runner's foot off the ground more efficiently than other shoes, giving an extra boost and improving body biomechanics, so you can run further and faster than before, knocking seconds off your personal best.



YOU NEVER FORGET
YOUR FIRST CAR



Introducing the Jaguar Junior ride-on car. Featuring working LED lights and low noise tyres as standard.
Buy online at [shop.Jaguar.com](https://shop.jaguar.com) or visit your nearest retailer.

The Curve

WINTER 2018



TECHNOLOGY

MUSIC TO YOUR EARS

The latest Jaguar E-PACE compact SUV has a host of new features to create a truly connected environment. The Smartphone Pack, which includes Apple CarPlay and Android Auto, enables you to plug your phone directly into the car and use your existing phone apps through the car's touchscreen. The new Online Media service, integrated within the existing InControl Touch Pro infotainment system, frees you from needing your smartphone to deliver your music. Link your Deezer and Tunes account directly to the car, and Online Media connects to the cloud to gain access to content stored online. As long as the car has an internet data connection, either from an in-car Personal SIM or a tethered mobile phone, you can listen to your favourite music, anywhere in the world.

Please use all in-car features only when safe to do so.
Please ensure you are in full control of the vehicle at all times.

Configure your own E-PACE at jaguar.com

PERFORMANCE

SPECIAL EDITION F-TYPE TAKES THE CHEQUERED FLAG

The Jaguar F-TYPE is the ultimate British sports car. Seductively-flowing lines wrap around an accomplished chassis, delivering thrilling and intuitive performance that's heightened by the magnificent soundtrack every time you unleash the powerful engine. Now, the F-TYPE is available in an even more stylish and desirable version: the Chequered Flag. Head-turning touches adorn this special-edition car, including a black contrast roof and sporty bodywork with distinctive badging, 20-inch six-split-spoke Gloss Black Diamond Turned alloy wheels with red brake calipers, and Ebony Windsor leather interiors with contrast stitching. Based on R-Dynamic specification, the Chequered Flag is available with either i4 Ingenium or V6 supercharged petrol engines, as a coupé or a convertible, in a select palette of Caldera Red, Fuji White or Carpathian Grey.



OFFICIAL FUEL CONSUMPTION FIGURES FOR THE F-TYPE CHEQUERED FLAG EDITIONS in l/100km (mpg): Combined from 7.9 (35.8) to 10.2 (27.7); CO₂ emissions g/km: from 179g to 242g. Official EU Test Figures. For comparison purposes only. Real world figures may differ.

JAGUAR GEAR - ACCESSORIES

MAKE IT MORE YOU



Enhance your New All-Electric Jaguar I-PACE with Jaguar Gear – our unique range of accessories engineered, tested and rigorously inspected by the same experts who designed the car itself.

From useful features that support its SUV levels of practicality, to stylish extras for an exquisite, finishing touch, you can create an I-PACE that's perfect for the way you live.

Find out more at jaguar.com/ipacegear

Accessories shown: Wheel Mounted Cycle Carrier and Roof Cross Bars. Objects placed above the roof mounted satellite antenna may reduce the quality of the signal received by the vehicle and could have a detrimental effect on the navigation and satellite radio systems, if fitted. Consideration should always be given to vehicle's maximum roof load capacity to ensure this is not exceeded.

THE ART OF PERFORMANCE

DORMANT THUNDER

TWO FAST CARS, ONE VOLCANIC ISLAND.
WHEN THE JAGUAR XE 300 SPORT
AND PROJECT 8 VISIT SICILY, YOU CAN BE
SURE SOMETHING WILL ERUPT...

STORY: *Henry Catchpole*
PHOTOGRAPHY: *John Wycherley*





"IN THE JAGUAR'S CALM AND COOL INTERIOR, I FELT COCOONED FROM





THE RUSH-HOUR MÊLÉE”



JAGUAR XE 300 SPORT
Looking fiery in Caldera Red, the XE 300 Sport takes to the hills outside Palermo. Journalist Henry Catchpole is all smiles as he lets the 300PS sedan loose

It's easy to dismiss the first one as an unfortunate oversight. The second can also be forgiven; after all, things often come in pairs. But after fifteen minutes of tumultuous tarmac that is riven with large fissures, potholes and apparently naturally-occurring speed humps, even a mind as slow as mine begins to suspect these road imperfections could be something of a Sicilian trend. In places, the road looks like an angry sea, whipped up into waves by the wind and then petrified by Medusa.

And yet what the eye is seeing and what my body is feeling are almost disconcertingly distinct. Take this area of subsidence approaching now, for example. Without a drop in pace, with no lift of the throttle, instinct suggests that an anticipatory wince would be appropriate. Brace for impact, so to speak. But then the crater passes beneath my Jaguar XE 300 SPORT and there is barely a flutter. Impressive.

No jolt through the hands, no uncomfortable compression of the spine, barely a da-dum as the wheels rise and fall in time with the suspension soaking up the impact. And this happens numerous times. The da-dums are constant enough that David Guetta could probably sample the irregular beat and have it playing in Ibiza within a week. But before long I learn not to wince before each one.

I am currently somewhere between the Sicilian city of Palermo in the north and Catania on the eastern side of the Italian island. Setting off earlier this morning, I plunged into the maelstrom that is a southern Italian rush hour. From behind the digital dash and yellow-stitched steering wheel in the Jaguar's calm and cool interior I felt cocooned from the mêlée. It was like viewing an immersive film as people switched lanes and travelled within millimetres of each other all around me. It's no wonder that most vehicles over here seem to bear battle scars on their bodywork, although I suspect the indicator stalks are factory fresh.

Keen to keep the XE 300 SPORT scuff-free and with a full complement of mirrors, I headed out of the city, →

switching the forest of apartment blocks for the hills that I'm in now, wooded with oak, fir and olive trees. Up here the traffic is as sparse as it was dense down in Palermo and it's much easier to enjoy the car. You don't really need Bletchley Park to decode the XE 300 SPORT's name and understand the sort of car it is. The 300 refers to the 300PS that the 2.0-litre Ingenium petrol engine puts out, and Sport refers to the nature of the suspension set up. Simple really. But the interesting thing about this XE is the way that it interprets 'Sport'. Given the troubled road surface in Sicily, a lot of cars that have sports suspension would be ill at ease. Some would be just plain terrible. But not the 300 SPORT.

The thing is that being sporty doesn't have to mean being uncomfortable or uncompromising. We have often come to conflate something that is fast with a stiff ride, but while a car that blurs your vision on a bumpy road might feel fast it's generally not. You want a car to keep its tyres in contact with the road as much as possible and on an uneven road that means having plenty of supple travel in the suspension and then good damping to control the springs. This is where the XE 300 SPORT excels.

Up in the mountains near Isnello, the sedan is a great companion. Switched into Dynamic mode, the steering is precise, well weighted and fluid in its movements. There is no unruly kickback, no sense of wrestling with the car as it tackles the cambers and contortions of the sinuous Sicilian roads. It is easy to place accurately and the body control is excellent too. The XE 300 SPORT is a car that can actually be enjoyed on imperfect roads. A performance car for the real world.

Heading into a series of switchbacks there is enough roll to let you use the car's mass and get it set up properly for each corner. It's another trait that I really like in a car, that ability to easily sense how it is balanced and shift the weight around accordingly, perhaps using a bit of brake to load up the nose or a lift of the throttle mid-corner to tighten the line. Understanding and managing that transition of mass

is one of the great joys of driving quickly and smoothly. Again that's why it's important to have a car that doesn't get too pitched around by bumps.

There is plenty of opportunity to try out the XE 300 SPORT's torque vectoring too, as the corners come thick and fast up in the mountains. We're now on roads that were used for the famous Targa Florio road race between 1906 and 1977 and it is staggering to think of the challenge it must have been to drive flat-out for hour after hour through this ruggedly rich landscape. Several different layouts were used during the Targa's 61 races but even the smallest ('Piccolo') circuit has an astonishing 800+ corners. For reference the Nürburgring's fearsome Nordschleife only has around 75.

After such excitement a coffee and a mid-morning gelato seem in order, so I follow the signs for Isnello's 'centro' and soon I find myself deep amongst the mediievally narrow cobbled streets of the hill town. Washing flutters from balconies above, the ironwork casts artistic shadows on the warm coloured walls and the tall buildings frame stunning views of the surrounding mountains, but I notice little of this as I try to concentrate on threading my way through the labyrinth. If it wasn't for the presence of other cars I'd think it

was meant to be a pedestrian zone in here, such are the tight confines of the streets. More than once I'm very grateful for the XE's option of 360° cameras, as I squeeze into an alcove to let cars pass. When three vehicles come at me from different directions, I think I might be about to win at the gameshow of 'Cause Havoc in a Hill Town'.

Eventually I emerge unscathed and park up near a small shop where an old gentleman works an ancient stainless steel coffee machine that drips thick black liquid into a tiny cup for me. Perfect. Just a word of warning, by the way, if you like a cappuccino or latte then get your order in early in the day. Italians frown on coffee with milk in it any time after mid-morning and I've heard that some places will simply refuse to serve you. Better to get your dairy intake in the form of gelato – the stracciatella really hits the spot. →

“THE XE 300 SPORT
CAN BE ENJOYED
ON IMPERFECT
ROADS: A PERFOR-
MANCE CAR FOR
THE REAL WORLD”



Powered by espressos, Henry negotiates Isello's cobbled alleys, while the sleek XE 300 SPORT adds a dash of colour to daily proceedings

ROAD TEST

Getting back into the XE 300 SPORT with eyes suitably widened by caffeine, I take in my immediate surroundings once more. The yellow stitching that adorns the leather really is quite a clever touch. It's not overbearing or garish, but the contrasting combination has connotations that instantly quicken the pulse. Think of where it appears in nature: on wasps or poison frogs or some snakes – it makes you sit up and take notice. In here, it's a little reminder that you've got 300PS and 400Nm of torque at your disposal.

Talking of which, the Ingenium engine is an interesting powerplant, and a key factor in why the XE handles the roads so well. Being a four-cylinder turbocharged all-aluminium engine means it is light and this helps the nose of the car feel responsive. The power delivery is pleasingly progressive too, keen to rev and gaining in enthusiasm as it rises towards its red line.

Of course all that power and torque wouldn't be any use if the car couldn't transmit it to the road, but the XE 300 SPORT has another trick up its sleeve – all-wheel drive. Even under fairly abrupt throttle applications on less than pristine surfaces, the XE doesn't waste any of its power. The way the systems deploy the power means the XE still feels slightly rear-biased in its demeanour, and that sense of driving out of a corner – pushing from the rear rather than pulling from the front – is crucial to a properly dynamic-feeling AWD system.

As we head towards Catania, the island's most imposing feature increasingly dominates the skyline. At 3,329m high, Mount Etna is Europe's highest active volcano. I'm in the right colour car for it too, as my XE is painted Caldera Red; a caldera is a cauldron-like volcanic feature, formed when part of the volcano collapses. Etna's is the Piano Caldera, formed 2000 years ago, near the base of its summit cone. →



“THE POWER DELIVERY IS





PLEASING, KEEN TO REV AND GAINING IN ENTHUSIASM AS IT RISES”





"THE SOUND OF THE BOMBASTIC 5.0-LITRE SUPERCHARGED V8



REVERBERATES OFF THE ROCK”

Not that I'm heading up Etna in the 300 SPORT... Parked up at the side of the road is a car that looks like the XE that I'm sitting in, but considerably meaner. You know that feeling when you're reunited with a friend after a few years only to discover that they have joined a gym in the intervening period and look rather different? That's what it's like when I encounter my ride for the final leg of the trip: Jaguar Special Vehicle Operation's XE SV Project 8.

Only the roof and front doors are the same as the XE 300 SPORT's; every other body panel has been pumped-up or chiselled away, and the end result is fantastically aggressive. Where the 300 SPORT has a subtle Q-car vibe with its Dark Satin Grey grille surround and rear spoiler, the Project 8 is all swagger and menace.

Even without its big splitter jutting out at the front and the carbon-fibre rear aero wing mounted on the boot lid, it would be an imposing sight. My favourite details are the blistered arches that are cut away at the rear to relieve air pressure. They beautifully frame the scant outer tread of the Michelin Pilot Sport Cup 2 tyres – the first time a car has emerged from a Jaguar factory with such extreme rubber.

Open the driver's door and the ambience has the same mixture of familiar and fierce. While the screens and basic architecture remain, carbon fibre adorns the dramatic sweep around the top of the dashboard, the rotary Gear Selector has been replaced with a SportShift Selector from an F-TYPE, and I now drop down into a fixed-back bucket seat. The same starter button now wakes precisely double the number of cylinders and twice the amount of horsepower. This should be fun.

The road up to the volcano is as dramatic as you'd hope and enjoyably wider than almost anything I encountered in the 300 SPORT. At times it feels like you're driving through a sort of hellish black corridor, and the sound of the bombastic 5.0-litre supercharged V8 reverberating off the rock only adds to the atmosphere. It's not just the 600PS engine that impresses with the Project 8, however, because the steering and chassis are so beautifully communicative and engaging that you enjoy the corners even more than the straights. →

JAGUAR XE SV PROJECT 8
For a blistering run up Mt Etna, Henry enlists the mighty Project 8 – an extreme, 600PS version of the XE, developed by Jaguar's Special Vehicle Operations unit

ROAD TEST

Despite the extreme tyres, the Project 8 is not all grip and no finesse. Turning into a long uphill hairpin you can immediately feel the loading on the outside front wheel and begin adjusting your line accordingly with the tactile Alcantara-trimmed steering wheel.

Just like the 300 SPORT you need to work with the weight transfer and like the 300 SPORT, the Project 8 has all-wheel drive that feels beautifully, naturally rear-drive in its balance. Of course the Project 8 has much firmer suspension but the damping is sufficiently sophisticated that it still manages to soak up the inevitable imperfections in the road.

It is a beautiful, if somewhat barren, road to the Sapienza Refuge that marks the high water mark for tarmac on Mount Etna, and late in the day, it is pleasantly quiet up here, after the hubbub of tourist traffic has died down.

Just as I quell the engine, unclip the Sabelt harnesses and get out onto the bizarre black landscape, I notice a small red cylinder behind me. It is mounted, along with a Harness Retention Hoop, where the rear seats would be in a normal XE, and forms part of the optional Track Package. Both are there purely as reassurance, but as I look out over the bewitching expanse of Sicily that I have traversed to get here, I rather like the fact that I have driven up a volcano with a fire extinguisher.

The 300 people lucky enough to be buying an XE SV Project 8 will own a very special car indeed. It is fantastic to see Jaguar making the leap into this sort of extreme performance car and I hope it won't be the last time we see something like this emerge from Special Vehicle Operations. And, of course, if you've just missed out on securing one of the Project 8s, then it's nice to know that in the 300 Sport there is another, more attainable XE that is still capable of thrilling on these demanding Sicilian roads. ■

Henry Catchpole is a motoring journalist who writes for magazines such as *Evo* and *Top Gear*, and presents for *Carfection*. When he's not busy driving supercars, he's into rallying and bicycle racing.



“I LIKE THE FACT THAT I



The Project 8 unleashes fire and fury on the way up to the caldera of Mt Etna. Henry delights in the car's race-spec engineering, and in the little touches too.



HAVE DRIVEN UP A VOLCANO WITH A SMALL FIRE EXTINGUISHER”



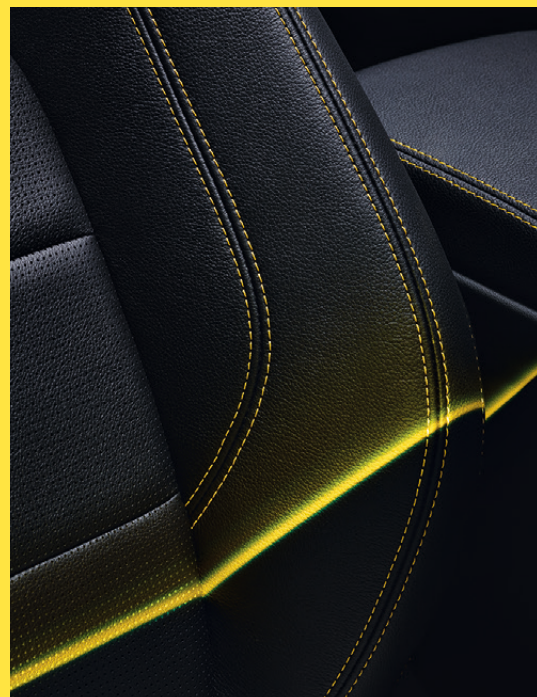




DEUS X MACHINA

With their taut all-aluminium chassis, sporty performance and refined interiors, the Jaguar XE and XF are truly desirable saloons. And in 300 SPORT special edition trim, they are deliciously devilish too. *The Jaguar* gets up close with the distinctive duo

PHOTOGRAPHY: Greg White



X F 3 0 0 S P O R T

The Jaguar XF is the epitome of seductive elegance with dynamic performance. The XF 300 SPORT takes that a notch higher still. With a 2.0-litre petrol or 3.0-litre diesel engine, both delivering 300PS, at its heart, it sports a sophisticated visual package of styling enhancements all in Dark Satin Grey. The

19-inch Metallic Diamond Turned finish wheels, also in Dark Satin Grey, are exclusive to the special edition. A '300 SPORT' logo adorns the front grille and rear of the vehicle, as well

as adds a striking splash of yellow to the black brake calipers. The interior experience is equally elegant, with exclusive branding on the carpet mats, treadplates and steering wheel, along with yellow contrast twin-needle stitching on the steering wheel and 14-way electric sport seats.



X E 3 0 0 S P O R T

The XE 300 SPORT blends bold design with sporting performance, the latter derived from the compact saloon's turbocharged, 300PS, 2.0-litre Ingenium engine. From the Dark Satin Grey grille surround all the way to the rear spoiler, the SPORT signals its athletic styling with real intent. The front grille and bootlid display the exclusive special edition logo, as do the black calipers biting into 350mm brake discs. The steering wheel features this distinctive branding too, as well as yellow contrast twin-needle stitching on the soft multigrain leather. The embossed seats also feature yellow contrast stitching. Branded carpet mats and treadplates round off the package. As with the XF 300 SPORT, brushed aluminium gearshift paddles add a contemporary touch. Four body colours are available. ■

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LORD OF





THE RING

THE JAGUAR XE PROJECT 8 IS THE WORLD'S FASTEST SALOON CAR, HAVING SMASHED THE LAP RECORD FOR A PRODUCTION FOUR-DOOR SEDAN AT THE NÜRBURGRING NORDSCHLEIFE CIRCUIT. WE GET SOME TEAM MEMBERS TO RELIVE THE MOMENT...

STORY: *Luke Ponsford*

It's 11am and Vincent Radermecker has already had a speedy morning. Sitting in the boardroom of Jaguar's Nürburgring test centre, fresh from 15 pedal-to-the-metal laps of this legendary German racing complex's formidable Nordschleife loop, he's taking a well-earned break before the afternoon driving session begins. Another 15 unyielding laps await.

As a durability driver for Jaguar, Vincent's job is to push pre-production cars to the limit around this formidable 12.9 mile-long track, exposing any flaws in a vehicle's set-up and giving engineers the data they need to come up with solutions. It may sound glamorous, but this is no easy task.

Named the 'Green Hell' by Formula 1 ace Jackie Stewart, the Nürburgring Nordschleife is almost as famous for high-speed wrecks as is for its fabled racing history. The circuit's 73 long and short radius bends, relentless elevation and camber changes, blind crests, bumps, dips and lack of run-off areas mean that this isn't a place for the foolhardy. One mistake here can spell disaster.

That's why so many car manufacturers, Jaguar included, test their vehicles at the Nürburgring: if a car can survive here, it can survive anywhere. But sometimes survival alone just isn't enough. For the elite Special Vehicle Operations team behind the development of the Jaguar XE SV Project 8, their limited-edition high-performance saloon had to make some serious waves. And on 29th November 2017, the Project 8 – with Vincent at the wheel – did just that, breaking the Nordschleife's track record for a production saloon car. But attaining a 7min 21.23sec lap time on this daunting ribbon of tarmac didn't come easy.

With over 10 years driving experience at the 'Ring and close to 8,000 laps of the place under his belt, Vincent's

previous gig as a professional race driver was to prove vital.

"Attempting to set a lap time here is a bit like racing," he explains. "It's essential to get every bit of track and every corner right, every time. You can't think about the past or more than five or six seconds into the future. That's the only time you've got control over. If you've made a mistake it's already done so there's no point thinking about it.

"And you can't think about what's going to happen in 30 seconds, because you don't have contact with that 30 seconds and you don't have the feeling of it yet. It's just the next corner, and then the next and so on. It's all about concentration and precision in the moment. Focus on anything else and you'll be finished."

Vincent spent three test days in the Project 8, building up to that 7:21 lap time. "We made three or four attempts at the record," he recalls. "The weather conditions weren't ideal; the track was damp in the mornings so we had to wait until the afternoon every day. We needed the right amount of heat in the tyres and conditions really had to be optimal before we went for it."

The car, of course, also had to be in optimal condition. Designing, developing and constructing this 5.0-litre, 600PS, hand-assembled super sedan – the most powerful Jaguar road car to date – in just over a year was no simple task. Getting it 'Ring-ready only added to the pressure.

"An enormous amount of time and effort went into refining Project 8's body surfaces in order to extract the most aerodynamic performance out of them," explains Special Vehicle Operations Senior Designer Luke Smith. "We were continuously rebuilding parts of the car to accommodate the latest engineering and aero developments. From a design perspective we were →



JACK LAMBERT VEHICLE DYNAMICS ENGINEER



VINCENT RADERMECKER DURABILITY DRIVER

“IT’S JUST ABOUT THE
NEXT CORNER... YOU
HAVE TO GET EVERY
BIT RIGHT FIRST TIME”



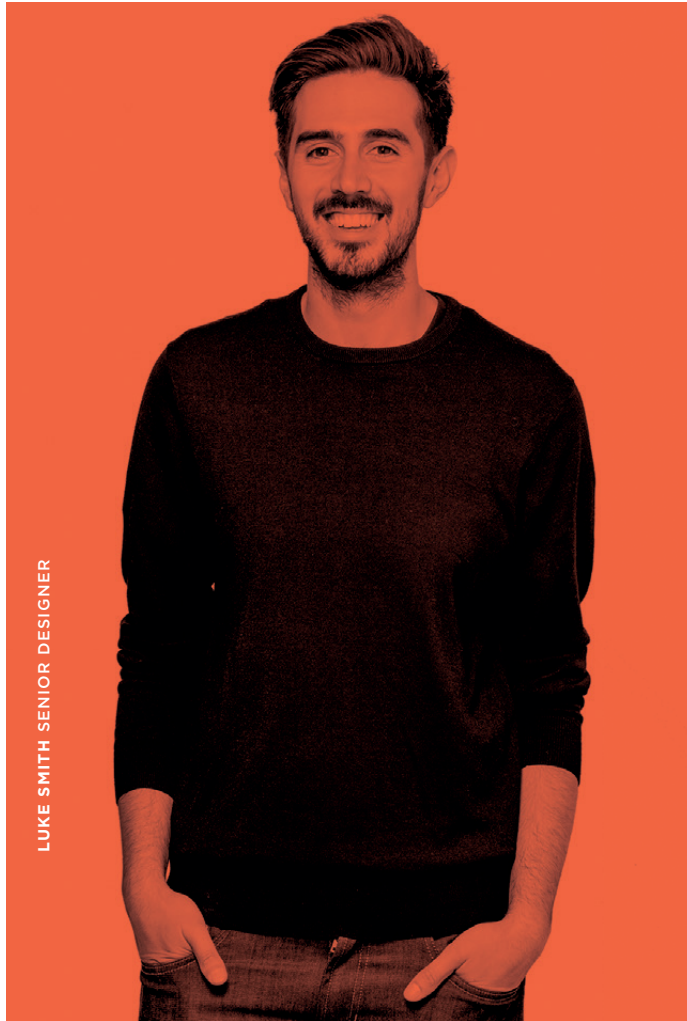


“THIS CAR SHOWS
WHAT JAGUAR IS
TRULY CAPABLE
OF PRODUCING”

ADAM JONES VEHICLE ENGINEERING MANAGER



LUKE SMITH SENIOR DESIGNER



constantly having to strike the balance between making specific areas of the car look attractive while also optimising those surfaces for drag, downforce, and lift.” All essential ingredients for getting a car round the Nürburgring as quickly as possible.

“We had a really tough few weeks leading up to Vincent getting the record,” adds Jack Lambert, Junior Vehicle Dynamics Engineer for the Project 8. “We were hindered by bad weather at the Nürburgring and we had to work out fixes for a few problems with the car. Essentially our job was to ensure that the steering and handling were as good as they could possibly be. There were a lot of late nights in the workshop at Gaydon last November,” he laughs.

But all that hard work wasn’t to be in vain. Having already firmly thrashed the ‘Ring times set by the Project 8’s nearest rivals by lunchtime on the third day of testing, Vincent and the engineering team decided to do one final run that afternoon.

At 3pm, thanks to a combination of perfect track conditions, tyre temperatures and a near-flawless drive, he successfully beat his own record-breaking time on the last lap of the last day of the season, one hour before darkness fell and the Nordschleife closed for the winter. A most satisfying Hollywood-style ending to the Project 8’s mighty achievement. That it was a standard development car on normal road tyres just added to the legend.

“Getting over the line at the Nürburgring in that time was huge for all of us,” says Project 8 Vehicle Engineering

Manager Adam Jones. “The car had been in development for just over a year at that point, but we already knew that it could better our rivals’ lap times. The performance targets we’d set for the car, and achieved, made us very confident of that. When it beat the nearest competitor by nearly 11 seconds, it was great to see what the Project 8 could actually do. Essentially this car is a technology demonstrator for us; it shows what Jaguar is truly capable of producing.”

Even with the record set, Special Vehicle Operations engineers continued fettling the Project 8. “Since last November we’ve fine-tuned every element of the car to get it to 100%. We’ve added stiffer engine mounts to improve handling, changed the damping, the transmission shifts and the throttle pedal response,” says Adam. The result is a car that’s even better, and faster, than it was a year ago.

Which is good news for Vincent Radermecker. “I was very proud of the record and I was also very proud that Jaguar gave me this opportunity,” he smiles. “But you always feel that in some parts of the lap you could have gone just a fraction faster... If you put all parts of a lap together, getting all the corners just right, you can achieve the ideal lap time. For me, in the production-ready Project 8, that would be a sub 7:20 time. I’m sure it’s totally possible.”

As Vincent zips up his race suit and heads purposefully down the stairs to the test centre’s spotless garage and his next 15 laps in a next-generation, track-hardened Jaguar, you get the impression that another Project 8 Nürburgring record is probably in the works. ■



GREEN ROOM

The Jaguar gets backstage with Eva Green, the enigmatic French actress who stars in Jaguar's new campaign, for a chat about the strongest part of an astronaut, loving James Bond and embracing your fears

STORY: *Craig McLean*

PHOTOGRAPHY: *Rebecca Miller*

Eva Green is back from space. Or, at least, the closest you can get to it without actually spending a few decades training as an astronaut.

The French actress this summer completed shooting for forthcoming science fiction action-drama *Proxima*, in which she plays an astronaut headed for a year's rotation on the International Space Station. The Alice Winocour film, which hits the screen in 2019, was shot in locations used by real-life astronauts, including top-flight training facilities in Germany, Russia, and Kazakhstan. "That was special because no film crew has been to some of these places before for this kind of work," says Green.

An important, and grueling, part of preparing for the role was intense training, working with astronauts who helped her get a sense of life in space. "I had to do lots of [multi-axial] spinning, and the spacesuit is very heavy, too. You need a strong butt as an astronaut!" grins the 38-year-old.

But it's wearing the mental make-up of an astronaut that makes this such a demanding role. "My character in *Proxima* has a young daughter, so she is very conflicted. It's a very human story," Green reveals.

"I'm in awe; astronauts are real heroes," she continues. "It requires so much mental strength to go up there, to leave behind your family, your life... Astronauts say that they never feel wholly back when they return — that they've left something of themselves up there. They work so hard to do something so extraordinary that it's hard for the rest of us to relate to it. To me, this makes them almost supernatural."

This otherworldly, ethereal quality comes naturally to Green. Viewers around the world have come to know her as a woman with a flair for the poetic — but also one with, in all the best ways, something of the night about her.

This is reflected in her filmography, too. She has excelled in dreamy, and often dark, title roles; in Tim Burton's *Miss Peregrine's Home for Peculiar Children* (2016) she played a strict headmistress who could transform into a falcon and



From her film debut in *The Dreamers* to her breakout role in the *Casino Royale* alongside Daniel Craig, Green has revelled in playing strong and mysterious characters

"I'M SO SCARED OF HEIGHTS I DIDN'T KNOW IF I COULD DO IT. I SURPRISED MYSELF A LOT"

manipulate time. And on the small screen, she was cast as a witch in the horror series *Penny Dreadful*.

Green recently completed another high-flying role, in Tim Burton's live-action remake of *Dumbo*. In her third collaboration with the phantasmagorical auteur, she plays a trapeze artist — no mean feat for a woman with a confessed fear of heights.

"I surprised myself a lot," she cheerfully admits of the role. "I'm so scared of heights that I didn't know if I could do it. But I had wonderful people who taught me. They were very patient — I started quite low to the ground and then worked my way up, literally. It was very physical as well — you need really strong arms and abs."

This, then, is the Green way: to boldly go where few actresses have gone before, even if that means spinning upside down and embracing your vertigo head on, in space or in a circus tent. It's this attitude — cool but gung-ho; thoughtful but adventurous; as comfortable with her →





“THE ROLE OF VESPER LYND WAS A GIFT. I WAS LUCKY TO GET TO PLAY SUCH A STRONG, HUMAN CHARACTER”



Green, seen here backstage while filming with the Jaguar I-PACE, loves road movies like *Mad Max: Fury Road* and *Thelma & Louise*

weaknesses as her strengths — that has helped her carve out a niche for herself. Green, moviegoers will know, is not like the rest.

This afternoon, as we meet in a studio in London, Green has found her way to an elegant antique couch. Surrounding her: greenery and taxidermy, reflecting both her somewhat wild nature and one of her rather peculiar collecting hobbies.

“There’s this amazing shop in Paris called Deyrolle, and it’s the most beautiful taxidermist in the world,” she says, and opens a door to another part of her weird, wonderful world. “It has rare birds, camels, lions, everything. I’ve got stuff from there myself. I bought this enormous bull’s head — well, actually, it’s an ancestor of the bull called an aurochs; they don’t exist anymore — because his eyes looked like he was asking for help in the shop. I was like, ‘Okay, you’re going to come home with me.’ It is quite impressive!”

RISING TO THE TOP

Green’s own look is impressive, too. Best described perhaps as fashion-forward gothic-chic, from her midnight-blue hair to her chunky boots, she emanates confident flair of the kind it takes an expert to master fully. Elan and rugged individualism, it’s clear, matter to Green, in all her choices in life and work.

Green has been like this — an individual who’s not afraid to challenge herself or common perceptions — from the very start of her career, which lifted off with her 2003 film debut in *The Dreamers*, a typically provocative arthouse film from Bernardo Bertolucci. It was then rocket-powered, first by a role in Ridley Scott’s medieval epic *Kingdom of Heaven* (2005), then by her part in *Casino Royale* (2006). Here, Green played Vesper Lynd, James Bond’s love interest, in

the 007 movie that introduced Daniel Craig and emphatically rebooted interest in the world’s longest-running film series.

“The role of Vesper Lynd was a gift,” she reflects. “It was that of a very strong woman, Bond’s equal, which was really cool. And the fact that Bond fell in love with her gave her substance. It was a very human character, so I was very lucky to get to play her.”

Was it hard for a Frenchwoman to master the cut-glass English accent required of a character who was an official with Her Majesty’s Treasury? “Yes, it was, very,” Green acknowledges. “I remember in *The Dreamers* my accent was so French — but I thought my English was so good! But for *Casino Royale* I worked hard with a wonderful dialect coach. She made me watch movies from the Forties for the repartee, the banter. But it’s the rhythm that you need to nail. That was the challenge.”

Onset, the film’s director Martin Campbell later revealed, Green was shy and quiet. “She kept to herself. All she had was her dog, and her dialect coach. So often with American stars you get all sorts of entourage... The Vesper in the *Casino Royale* book has this almost mysterious, dark quality. Bond reflects on the fact that you can’t quite get to grips with her, you never quite get to know her. Eva has that exact quality. I was thrilled to have her. And boy did she deliver.”

OVERCOMING OBSTACLES

Green was born in Paris to a French actress mother, Marlène Jobert, and a Swedish dentist father, Walter Green. She has a fraternal twin sister, Joy; Eva is the elder by two minutes. Acting took hold of her early on, pushing aside a teenage enthusiasm for pursuing a career in Egyptology. It also helped with a crippling shyness that’s hard to square with the cool, →

“I WAS VERY SHY AT SCHOOL, I DIDN’T LIKE TO SPEAK IN PUBLIC. AND I’M AN ACTOR NOW. GO FIGURE!”

calm, collected woman sitting here serenely amidst a studio bristling with camera equipment and filming crew.

“Yes, I was very shy at school. I didn’t like to speak in public, and I panicked when a teacher asked me a question. The blood stopped going to my brain,” Green remembers. “And I’m an actor now, which doesn’t really make sense. So, go figure!”

Once again tackling her fears, Green came to London, aged 17, to study at the Webber Douglas Academy of Dramatic Art. It was a bold step for a far-from-confident girl with, at best, a rudimentary grasp of English.

“The workshop at Webber Douglas was really hard for me. My English was terrible at the time, and it was eight hours a day in English. We had to improvise in English, which freaked me out — sometimes I couldn’t understand what the other person was saying to me,” she laughs. “So I was just frozen, pretending I understood.” Green ploughed on for an academic year, before returning to France for three years’ further study at drama school.

BACK IN BLACK

If she took her love of acting from her mother, what does she think she took from her father? “I don’t speak Swedish and I really wish I could. So maybe my weirdness is Swedish, something from the mystic north?” she ponders.

Expanding on this aspect of her character, she acknowledges once again how often she’s been cast as witches and supernatural beings, from Serafina Pekkala in Philip Pullman’s *The Golden Compass* to the demonically possessed Vanessa Ives in *Penny Dreadful*, a performance for which she received a Golden Globe nomination.

“I think as an actor you’re being put into a box. And lots of people have this image of me being all in black, gothic... but what does that mean?” she wonders playfully. “I have to embrace my gothicness because everyone’s saying it. But I think I’m many things. And maybe people are scared when they meet me, they think I’m really cold. But I’m not,” Green shrugs. “Yeah, I’m many people,” she smiles again.

And what might be on her wish-list of roles? “Well, I’d love to do a road movie”, says Green. “There’s something about cars that is so manly, so to show a woman handling a very powerful car is quite empowering and sexy. I’d like to do that, but it has to be a good script. Charlize Theron in *Mad Max* was so cool.”

If her old collaborator Ridley Scott decided to do a modern remake of his classic *Thelma & Louise*, would she slide behind the wheel? “I don’t think you can remake *Thelma & Louise*, but I would love to do something similar,” she replies. “It was such a beautiful love story, with two very strong, independent women.”

As to who would be Thelma to her Louise, or vice versa, she decides that her mother would be the perfect driving companion. “But I would definitely be in charge of the music,” she laughs. “My mum and I don’t have the same taste, but I do love classical music, so sometimes it would be nice to have a bit of a requiem in the car. But you need a bit of rock’n’roll for a road trip.”

From a rock’n’roll actress, we’d expect no less. ■

Search ‘Jaguar x Eva Green’ on YouTube to see the new campaign.



I, TAXI

DISCOVER HOW JAGUAR AND WAYMO ARE SET TO EXPAND
THE BOUNDARIES OF FUTURE URBAN MOBILITY

STORY: Jason Barlow
ILLUSTRATION: Mario Wagner





With the I-PACE winning acclaim across the board, Jaguar's first pure electric vehicle

has put it at the forefront of the EV revolution. Jaguar has beaten all its key rivals to market with an EV that parlays the brand's core strengths – design, performance, ride and handling – into a thrilling new zero-tailpipe-emissions form, giving the wider image of all-electric vehicles a dramatic boost.

As a game-changing vehicle that defies convention, the influence of the I-PACE is far-reaching. Jaguar has inked a deal to co-build and supply up to 20,000 I-PACEs to Waymo, the US-based autonomous cab-hailing service that's hailed as one of Silicon Valley's hottest start-ups.

Part of the mighty Alphabet group that includes Google, Waymo is in pole position in the quest to bring self-driving taxis to the public.

It is already trialling its service in the US, where it has 600 autonomous mini-vans shuttling willing participants around 'geo-fenced' parts of Phoenix, Arizona, and a handful of fully autonomous taxis testing on open roads. A full US launch of the service is planned for 2020.

"When we saw the I-PACE there was recognition that it was an amazing platform to integrate our technology with," explains Waymo's CEO John

Krafcik. "It was a clean sheet platform, and had a powerful 90kWh battery. There was instant chemistry, too – a commonality in how Jaguar and Waymo see the world."

That common world view will be key to the venture's success. To that end, Jaguar has already embedded engineers within Waymo, making sure the self-driving technology is fully and optimally integrated into the Waymo Jaguar I-PACEs right from the start.

It will also mean that Jaguar will not simply build EVs for a new market – it will become an active partner in a venture that could profoundly change mobility concepts.

"Waymo was excited to discover the Jaguar I-PACE wasn't just a motor show concept car," says Hanno Kirner, Executive Director - Corporate and Strategy, at Jaguar.

"We have created a highly advanced EV; they have developed the most advanced self-driving system. And what we have here is the world's first autonomous robo-taxi."

"Integrating a self-driving system into a car is a substantial task," he continues. "But it's a great learning process for both of us. We're not just going to sell the car, we're going to service and run the cars for Waymo. So this is a game-changer from that point of view, too. We'll be a manufacturer, and become an operator of a shared mobility service."

"WHAT WE HAVE HERE IS THE WORLD'S FIRST AUTONOMOUS ROBO-TAXI"

THE EYES HAVE IT

Turbocharged by vast resources and intellectual firepower, the technology that will be fitted onto Waymo Jaguar I-PACEs is in constant development, but includes the very latest in sensor technology and artificial intelligence.

At its core is an intelligent sensor and radar system – the LiDAR, the 'eyes on the car' – which is capable of detecting pedestrians, cyclists, roadworks and much more, up to the length of three football fields away, all in a 360° field.

"We're the only company in this area that has dedicated hardware engineers working on the sensing," Krafcik says. "The LiDAR, radar, the vision systems and computing package are all Waymo-designed, and the hardware engineers are working side-by-side with the software engineers who are writing the code to move the cars around the world."

"Our technology has gone through what we regard as the toughest driving test in the world," he continues. "Our cars have covered 5 million autonomous miles on roads in 25 different American

cities. In addition, they have travelled 5 billion miles in simulations, and have been subjected to 20,000 individual tests in Waymo's special test 'city'."

The service will be available to users via a smartphone app; hail a cab, press go – and lean back as the 'robo-taxi' shuttles you safely to your destination.

Krafcik, a Stanford and MIT grad who joined the automotive industry before being poached by Google to lead the Waymo vision, has a reputation as a fast-thinking high-flier.

With Waymo, he envisions a world where intelligent sensors not only help eliminate accidents and improve safety for drivers, but also offer an opportunity to bring mobility to millions of non-drivers.

"Safety and access is the primary motivator," Krafcik says. "Getting to zero fatalities is going to be a long road, but it has to be the goal. In terms of access, 30 million Americans are of driving licence age, but are unable to drive for some reason – whether it's because of a particular disability or infirmity. Imagine how an autonomous ride hailing service could help them."

With cutting-edge answers to some of future mobility's most pressing questions, Jaguar and Waymo aim to transform the way we move.

And as the first all-electric vehicle in the Waymo fleet, the I-PACE could well become an iconic symbol of this mobility revolution. ■



BUILT FOR THE FUTURE

As a premium, spacious yet compact electric vehicle from an innovative manufacturer, the new Jaguar I-PACE provides the perfect platform for Waymo's ambitious plans to launch the world's first driverless service. The I-PACE will be the first battery-electric vehicle in the Waymo fleet. Jaguar will adapt the vehicle at the production level so that it is capable of integrating Waymo's self-driving technology. Up to 20,000 Waymo self-driving I-PACEs will be integrated into the ride-hailing service, which will become commercially available to the US public from 2020.



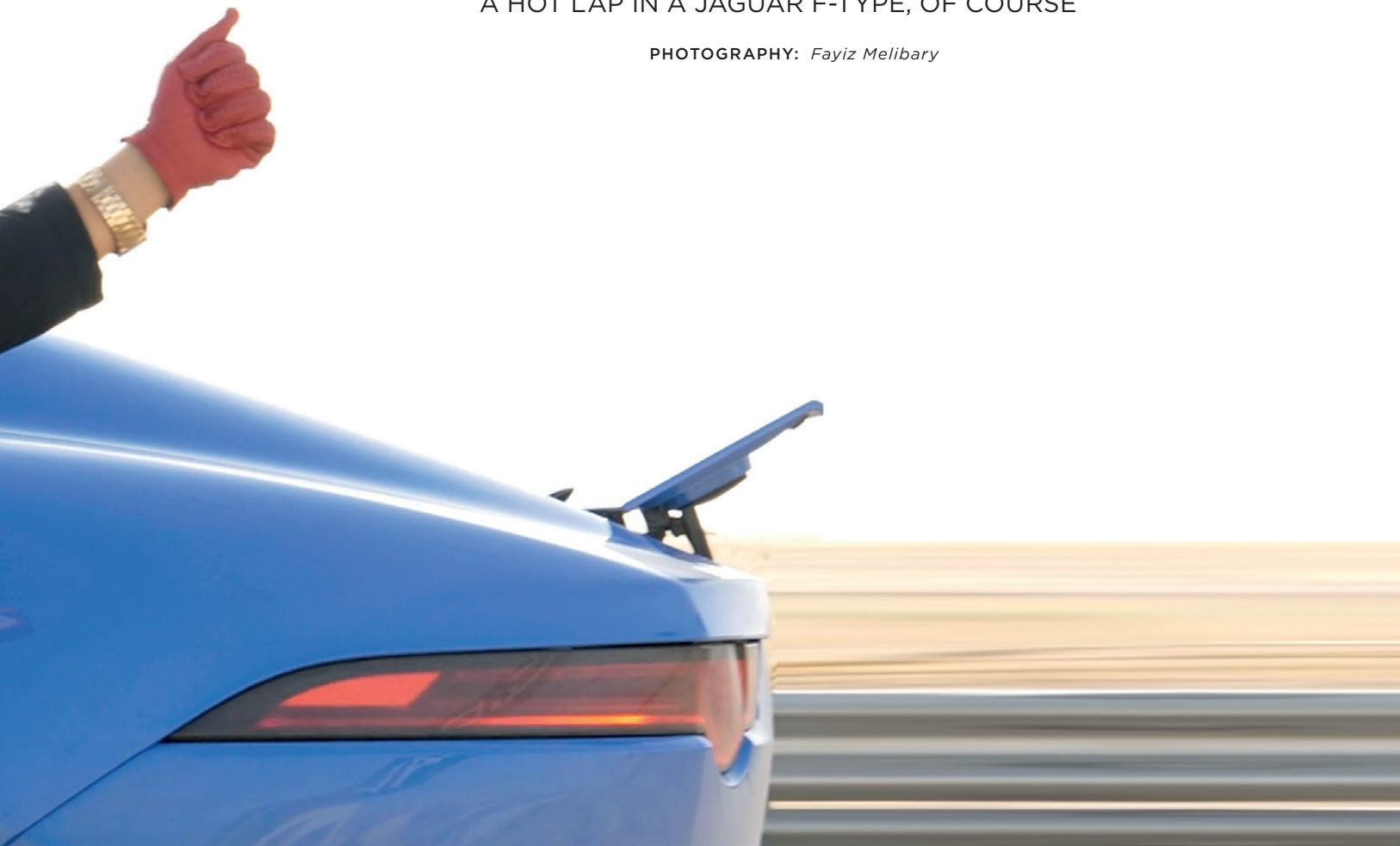
TRAILBLAZERS



G I R L P O W E R

HOW DO YOU CELEBRATE A HISTORIC EVENT LIKE SAUDI ARABIA'S
LIFTING OF ITS BAN ON WOMEN DRIVING? IF YOU'RE ASEEL AL-HAMAD,
A HOT LAP IN A JAGUAR F-TYPE, OF COURSE

PHOTOGRAPHY: *Fayiz Melibary*





Al-Hamad, who followed her childhood passion for driving, can now do so freely in Saudi Arabia

The Reem racetrack – a dusty black ribbon of tarmac west of Riyadh, Saudi Arabia – has probably witnessed a scene like this a thousand times before. A sleek sports car glints in the midday sun as it tears through the bends, tyres screeching as an ecstatic driver pushes them to the limit.

However, this flowing fusion of car, driver and track is anything but ordinary. At the wheel of the Ultra Blue Jaguar F-TYPE Coupé is race driver, entrepreneur, interior designer, engineer and motorsport enthusiast Aseel Al-Hamad.

As she roars into the pitlane, Al-Hamad symbolises the country's first steps towards a future that, even a year previously, seemed all but inconceivable.

On the 24th of June, 2018, Saudi Arabia lifted its national restrictions on women driving, just nine months after King Salman bin Abdulaziz Al Saud's royal decree.

To mark the historic event, Al-Hamad teamed up with Jaguar to celebrate the long awaited cultural shift in her country with a celebratory lap in the Jaguar F-TYPE on home soil.

The lap is part of the first World Driving Day, the annual highlight of Jaguar's collaboration with more than 40 universities and academic institutions around the world on future mobility solutions. Commemorating the lifting of the ban, the event will soon expand to include partner universities in Saudi Arabia, too.

In a sense, this day was always coming for Al-Hamad. Even if she

“BEING IN A CAR TO EXPERIENCE ADVENTURES ON OUR OWN WILL BE INCREDIBLE”



grew up in a country that, until now, was the only one in the world to ban women from driving its streets.

“My passion for driving started as a little girl,” grins Al-Hamad. “I always preferred playing with my brother’s toy cars. Over the years my family always encouraged me to follow my dreams as a driver.”

After graduating from Prince Sultan University with a degree in interior design, Al-Hamad founded IDegree Design, a one-stop engineering and design firm specialising in high-end residential and commercial interiors. As her business grew, her peers took notice; an appointment to the prestigious Saudi Council of Engineers followed.

Meanwhile, motorsport became a growing interest, which she channelled into writing, track days, workshops and professional racing courses, soon profiling her as one of Saudi Arabia’s first few female petrolheads. She famously became the first woman to import a Ferrari into Saudi Arabia.

Eventually, she was recognised as the country’s prime proponent of women in motorsport as she became the first female member of both the

Saudi Arabian Motorsport Federation and the Women in Motorsport Commission set up by Formula One’s governing body, the FIA. Once at the world motorsport’s centre stage, Al-Hamad says, she realised she had found her calling.

“It was and is my ambition and desire to become a role model for future generations of women,” she says. “I want them to identify their passion for racing and start practicing their passion at an early age. I hope this will inspire new generations of women around the world to enjoy the excitement of driving and being behind the wheel.”

With millions of Saudi women now able to drive (and indeed, race), Al-Hamad says the impact on life in the Saudi kingdom will be immediate and profound.

“Three things will fundamentally change from now on,” she says. “We as women in Saudi Arabia will have a new sense of responsibility, which is extremely important. Second, it impacts our independence. I am looking forward to being able to have my own schedule in my life and business and not be reliant on others.

“And third, it will create further

opportunity for spending quality time with my loved ones. I think people take for granted how important enjoying and creating special moments and memories are. Being in a car to experience new adventures on our own will be incredible.”

Al-Hamad says finding herself in the midst of a seismic shift like this, in the heart of her home country, will stay with her for the rest of her life.

“All Saudi women will remember 24th June as a historic day,” she smiles, visibly moved. “I have waited all my life for this, but I always believed one day it would happen. It makes me so proud. And, it reminds me to never give up on your dreams.”

Back on the track, the F-TYPE’s distinctive roar is dialled back to a contented sizzle as it cools down. A sense of achievement and pride hangs in the air and blends with the chatter from track and media crews as Al-Hamad calls it a day.

On the tarmac behind her, the tyre marks still look fresh: bold symbols of the exciting journey that millions of women like her are now on. ■

To watch Aseel in action, search for ‘World Driving Day’ on Jaguar’s YouTube channel

LICENCE TO THRILL

THRILLS ARE AMONG THE MOST POWERFUL EMOTIONS HUMANS CAN EXPERIENCE. BUT WHILE THE PAYOFF MIGHT BE QUICK AND UNEXPECTED, THERE IS A SURPRISING AMOUNT OF DELIBERATION BEHIND THE CREATION OF THRILLING MOMENTS. WE MEET THREE INDIVIDUALS WHO ENGINEER SUCH MOMENTS, AND LEARN HOW DECADES OF EXPERIENCE AND PAINSTAKING PLANNING ENABLE THEM TO CRAFT UNIQUE JOURNEYS OF ADRENALINE AND SURPRISE

STORY: *Geoff Poulton*

PHOTOGRAPHY: *Roderick Aichinger*



HERMANN TILKE F1 CIRCUIT DESIGNER

When Hermann Tilke was 18, he borrowed his mother's car. But it wasn't to visit a friend or go to the cinema. "I put a roll cage inside it and went hill racing," he says. "She wasn't too happy when she found out!"

It was a humble beginning for a man who has gone on to become one of motorsport's most influential figures. Tilke might not have made it to the very top as a driver – "I was a good amateur, but not pro level" – but he is the undoubted king of racetrack design, with more than 75 circuits to his name. Almost every track on the current Formula One calendar has been built or modified by the German and his team at Tilke Engineers & Architects. "With a little input from Bernie Ecclestone," he adds with a smile.

That Tilke has managed to combine a passion for motorsport with his love of design and construction is pure coincidence, he says. After studying, he worked as a civil engineer: "A good job, but I didn't have enough free time to go racing." So Tilke quit and set up his own engineering consultancy.

"I had contacts at the Nürburgring and they offered me my first contract – a 20-metre service road. Who would have thought it would end up like this?" he says, glancing around his office at 3D-printed racetrack models and photos of circuits from Texas to Malaysia.

First stop on any new project is a site inspection to assess factors like topography, climate and soil quality.

When Tilke and his team of designers, engineers and architects begin sketching, it's never a blank canvas, though; geographical restrictions and safety regulations shape their work.

"I like elevation. When a corner goes over a hill, it behaves completely differently to the flat. It's much more difficult to drive at high speed. But we have to work with what we have."

With a brief that often includes a concept for the entire surrounding infrastructure, from grandstands to restaurants, Tilke's aim is to create a grand sporting arena. From initial designs to first race, the process typically takes around three years.

"The track should maximise the challenges for drivers and thrill spectators," he says. Turn eight at Tilke's Istanbul Park track, for example, is considered to be one of the most exhilarating ever built, a triple-apex taken flat out at 170mph for eight seconds; turn one at his Circuit of the Americas has seen spectacular overtaking since its introduction in 2012.

But he also has his critics. Certain F1 pundits and fans have labelled his tracks boring, with mistakes left unpunished by generous run-off areas. "This isn't the 1960s," he retorts. "Safety regulations are much stricter. You can't have barriers next to the road. And these circuits aren't just for Formula One – what about the motorbike riders? What's safe for a car isn't necessarily safe for them."

Evolution is important, he insists. "Look at Formula E – it sounds different,

but so what? Ultimately, racing is racing. It doesn't matter what it is, you just have to be as fast as possible."

Tilke himself still raced competitively until just a decade ago, including a 24-hour race at the Nürburgring. Now 63, his own appetite for speed may have lessened a little, but his son Carsten, also a partner in the business, has picked up the baton. "We drove together in a four-hour race in Moscow once; he was faster than me. Watching him race is more thrilling than anything else." →



BRENDAN WALKER ROLLERCOASTER DESIGNER

Did you know there's a thrill-seeking gene?" asks Brendan Walker. People with a certain dopamine receptor are more likely to be thrill-seekers, he explains. "I had my DNA tested a while ago and I have it. Which wasn't very surprising."

Walker, a self-titled 'thrill engineer', has helped create some of the UK's best-known rollercoasters and theme park rides, such as Wicker Man and Thirteen at Alton Towers. His Aerial design practice specialises in "tailored emotional experiences" and enables Walker to pursue his passion: exploring the phenomenon of the thrill.

"It's deeply subjective, of course, but a thrill combines both pleasure – associated with dopamine – and arousal – associated with adrenaline. To elicit that, you need a rapid and large increase in the two together," Walker says. "Fear can make the journey even more dramatic."

For a rollercoaster, the emotional experience starts as soon as you know it exists – an advert on TV, perhaps. The whole journey plays a part, from buying the tickets to lining up. "The moment the harness clicks into place, when you know there's no going back – that's actually the biggest thrill," says Walker.

He knows this because he has monitored and analysed the emotions and physiological changes of thousands of theme park-goers in a bid to quantify thrill. The Englishman has even refined it into his own formula, the Walker Thrill Factor. He uses this to measure and rate a thrilling experience by tracking a person's reactions, including heart rate and facial expressions.

"That's my geeky, scientific side," he chuckles from behind his trademark large glasses in his East London studio. Walker studied engineering and worked



for several years at British Aerospace, before deciding that aircraft production timelines were too long for his taste. He quit and went to art college, before studying industrial design.

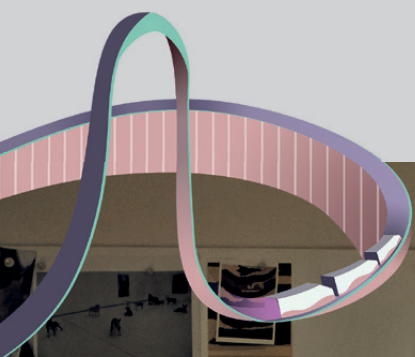
"I really loved experimenting. I started out making mechanical sculptures in my workshop. It was fascinating to see how audiences reacted, observing their emotions. I began to explore the underlying psychology, and this eventually wound up as a series of public installations at London's Science Museum, which gave birth to my work as a thrill engineer."

When consulting for theme parks, Walker uses his research to help ride-makers plan factors like speed, g-force and changes in acceleration or 'jerk'. He calculates how far a ride needs to drop vertically, in the dark, to create

the sensation of thrill – 0.7 seconds, or 2.4 metres. A ride shouldn't be one pure adrenaline rush, though, he says. "A rollercoaster is like film or music. When should you change the pace, lighten the mood? Alfred Hitchcock was a master at it: giving the viewer a short cathartic release before taking them somewhere darker."

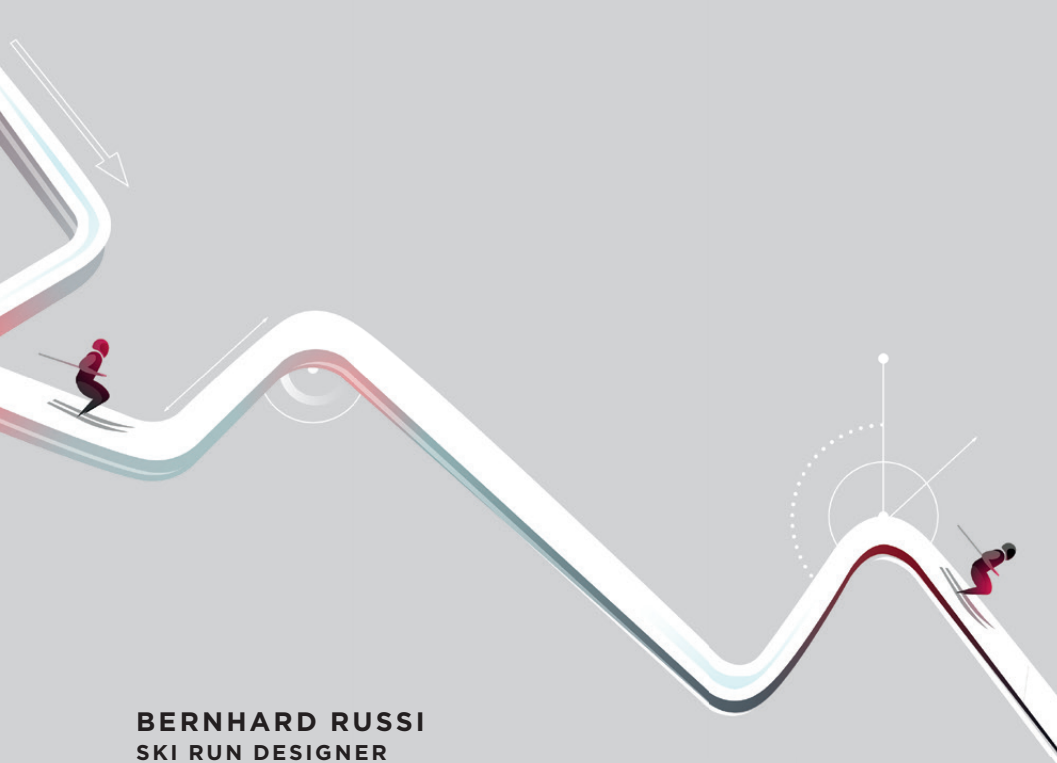
His latest project combines virtual reality with an old-fashioned playground swing. Walker says he can make people believe they are bouncing above rooftops or undulating like a jellyfish. "I'm developing ways to harness the physical forces riders feel, by making them believe they are coming from very different places. Virtual reality is allowing me to be really innovative – and this may be the future for thrill rides beyond rollercoasters." →

“A ROLLERCOASTER IS LIKE **FILM OR MUSIC** - WHEN SHOULD YOU CHANGE THE PACE, LIGHTEN THE MOOD?”





“ALL THE TIME, I GET TO
KNOW THE MOUNTAIN.
THE MORE I LEARN
ABOUT IT, THE MORE
I KNOW WHAT I **DON'T**
HAVE TO DO”



BERNHARD RUSSI SKI RUN DESIGNER

A world-class downhill skier can touch 95mph – faster than the road speed limit in most countries. “But speed isn’t everything,” says Bernhard Russi. “A good run can’t just be straight down; it needs long corners, 50-metre jumps. I want the best racer to win, but I also want viewers to be entertained.”

An Olympic and world downhill champion in the 1970s, Russi is now one of the world’s most sought-after ski course designers. Since 1988, the Swiss has shaped every Olympic downhill course bar one. His Face de Belvedere course at Val d’Isère is credited by many experts as a turning point in downhill skiing, changing the sport from straight-line speed-fests to a more technically challenging and spectator-friendly event. Former Olympic ski champion and International Olympic Committee member Jean-Claude Killy once dubbed him the ‘Picasso of skiing’.

Russi himself says he had never contemplated course design as a profession, but as a racer he was known for voicing his criticism of pistes he thought not demanding enough. Then, in the early 1980s, not long after he’d retired, Russi was asked by the International Ski Federation to go to Calgary and look at the site for the 1988 Olympic course. “When I came back with my report, I said ‘The

mountain is okay, but...’ And that ‘but’ made me a course designer,” he says.

Skiing is in Russi’s blood. The son of a ski racer, he grew up in the Swiss mountain town of Andermatt, “where everyone skied as soon as they could walk”. A successful junior, Russi finished his studies in construction design on the insistence of his father before focusing on sport.

His fledgling career was dealt an early blow. As a young pro keen to earn some extra money, Russi crashed while skiing as a stuntman for the James Bond film *On Her Majesty’s Secret Service*, breaking a vertebra. The injury kept him out for six months, but he sensationally won the 1970 world championship in his comeback season at just 22. Olympic and world championship gold followed in 1972 and silver in 1976, before Russi retired at 30, concentrating on media work before finding his niche as a course designer.

When he is asked to conceptualise a course, the first thing he does is study maps of the area to select a location to explore more closely. “Then I go there and I walk. I take different coloured tapes and mark out lines down the mountain. It might take several visits, but eventually, there’ll be one perfect line, a mix of the ones I’ve walked, which we’ll build the course around. All the time, I get to know the mountain.



The more I learn about it, the more I know what I don’t have to do. This is nature; I’m not a highway builder. My goal is to change as little as possible.”

Once Russi has finalised his design, sketching on paper and screen, construction can begin: a process of several years. He’ll visit a site 10 to 20 times to check on the progress, fine-tuning if necessary. “When it’s done, I ski the course, but I don’t race it,” he says. “Those days are behind me!” That’s left to his assistant, Didier Défago, a former Olympic champion who retired in 2015.

Not that Russi’s taste for thrills has left him. At 70, the Swiss is still a regular free climber in the mountains around Andermatt. “Climbing doesn’t have the same short bursts of intense adrenaline, but it’s still a thrill. There are moments when you are on the limit, just like skiing. It helps to push me.” ■



MAX

BREAKING ANY WORLD SPEED RECORD ISN'T EASY,
BUT WHEN IT'S AN ELECTRIC-POWERED ONE, IT COMES
WITH A WHOLE NEW SET OF CHALLENGES. HERE'S
HOW JAGUAR VECTOR RACING PUSHED THE BOAT OUT...

STORY: *Sachin Rao*



RECORD BREAKERS



Veteran racer Peter Dredge waits for the fog to lift before his record attempt on Coniston Water



PHOTOGRAPHY: ALEX PUCZYNYEC, MALCOLM CREASE

On a clear day, Coniston Water is one of the most beautiful spots in all of England. Nestled in the heart of Cumbria, popularly known as the Lake District, this large lake is a tourist magnet come summer. But today is not a clear day. Yes, it's early enough in the morning to be still nursing fond dreams (of coffee, mostly), but the pea-souper that's blanketing the lake is murky enough to put a hint of a frown on the two dozen faces around me.

They are not tourists; even the keenest of holiday ramblers are still sensibly in bed. But if their sense of focus and rapid action isn't evidence enough that they are expert professionals, a Jaguar F-PACE pulls in towing a large object covered by a tarpaulin, and the buzz immediately increases. This crew is on a mission, and at the heart of it is what's revealed to be under the tarp: a sleek watercraft – the Jaguar Vector Racing V20E. And more specifically, what's under its bodysell: a huge, powerful battery that draws on Formula E technology.

The goal today is deceptively simple: to break the decade-old world speed record for an electric watercraft; currently, 76.8mph. This may sound relatively low – we're used to motorway speeds, after all, let alone watching Formula One races from the comfort of our sofas – but given the nature of the propulsion system and the surface being raced on, the task at hand conceals a whole host of unique challenges to overcome.

This is where it gets interesting, as pushing the envelope is in Jaguar's DNA, and that of its partners in this world record attempt, Vector Racing and Williams Advanced Engineering. Jaguar is already well at the forefront of electrification technology, with a clear mission to 'Race To Innovate' on track and on the water. So the key would be to successfully transfer the racecar technology being used in Formula E with Panasonic Jaguar Racing, to powerboats.

"Electric racing is in its relative infancy even in the automobile world, and the marine version is almost unexplored," explained Malcolm Crease, CEO of Vector. "So all three partners really wanted to push the boundaries of performance in this sector."

After the decision was taken in mid-2017 to commit to breaking the electric marine world speed record, preparations and testing began, and carried on for more than eight months, with the pioneering nature of the activity inevitably leading to plenty of trial and error.

"We had to start from scratch, right from working out the type and size of boat, to the costs, weights and outputs of the various components," said Peter Dredge, Vector's Technical Director and a veteran marine racer.

"Replacing the engine and fuel tank with a battery, inverters, motor and sensors, and calibrating and tuning each setup, was a painstaking process. We needed to balance out the weight, keep it aerodynamic, and make →



STILL WATERS RUN DEEP

The fifth-largest lake in England, Coniston Water is long – five miles long by half a mile wide – and calm, making it perfectly suited to speed runs, where racing watercraft need as much space as possible to build up and scrub off speed, turn around and make another run. This is why it hosts an annual multi-class event, Coniston Powerboat Records Week, usually in November.

Jaguar Vector Racing's achievement of the world electric marine speed record at Coniston Water is only fitting, as the lake is no stranger to such feats. This was where the legendary Sir Malcolm Campbell first broke the then world waterspeed record (by a fuel engine craft) when he hit 141mph, back in 1939.

In the 1950s, his son Donald set four successive records here, in the iconic hydroplane *Bluebird K7*. Sadly, Donald Campbell perished in 1967, when he lost control of his craft while pushing past an incredible 320mph. Its wreckage was only retrieved from the lake's depths in 2001.





Success! Peter takes the V20E to 88.6mph, setting a new world speed record for an electric watercraft

sure everything was safe, compliant with regulations, and that the integrity of the craft was intact. None of it was an exact science; much of it had not been tried before.”

Another issue was finding suitably long stretches of water to run the systems enough to confirm the cooling systems could deal with the great heat that needed to be dissipated. Components failed, and lessons had to be unpicked. But as the learning curve accelerated, the performance data started to improve strongly, and the teams grew confident in their ability to break the record.

Meanwhile, another challenge was being steadily overcome – the Lake District has strict bye-laws limiting boat speeds to 10mph, and it takes many months to process the multitudes of paperwork needed to get special dispensation to attempt a speed record. The logistics were nothing to sneeze at either; a feat like this requires timekeepers, safety crews, and other kinds of officials. But finally, requisite permissions in hand, the stage was set. The weather forecast was good, and everyone involved was raring to go.

Cue fog. But eventually, and dramatically, like a curtain in a stage play, it lifts, magically revealing Coniston’s still waters ringed by hills. Peter lowers himself into the snug cockpit, and the V20E is gently backed in near the pier. In near-silence, save the splash of parting water, the dart-like craft accelerates away – slowly at first, then rapidly gaining speed, driveline hum resonating over the lake – until it is just a white fantail receding into the distance.

I get my chance to nurse a cappuccino, but out on the water, Peter is running on adrenaline. Everything is precise

THE SUN PEAKS, THEN STARTS TO DROP. AND THEN: TRIUMPH

and practiced. Data evaluated; radio chatter with safety and tech crews; turnaround time; the return pass made within a stipulated time; average run speed calculated.

As an experienced racer and record breaker, Peter is mentally in the zone, breaking down everything into small and simple actions. It’s a fine line between success and failure. So he stays in the cockpit and in the zone, even as laptops are plugged in and parts checked, tuned and tweaked or replaced between runs.

A chance to stretch his legs comes only when the boat is taken out of the water, for the battery to be recharged. The sun peaks, then starts to drop. And then: triumph. An afternoon run produces a two-way average of 84.8mph, smashing the record. Three runs later, Peter and the crew push the V20E all the way up to 88.6mph, which, as the permitted sessions end, stands as the new world record*.

“My first reaction? Relief!” laughs Peter. “Relief that everyone’s time and effort over 15 months has paid off. And next, excitement for the future. I can tell you, this record won’t last long. We’ve already got big plans.” ■

*Record held at the time of going to print

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THE ART OF PERFORMANCE

ELECTRICAL STORM



WHY A BONA FIDE
MOTORSPORT
LEGEND AND A
PETROLHEAD RACER
SIGNED UP TO BE THE
FIRST RACING TEAM
IN JAGUAR'S NEW
PURE-ELECTRIC SERIES

STORY: *Guy Bird*

In racing you're always looking for the advantage," says American motorsport legend and race team owner Bobby Rahal. "Our team has always been an early adopter, so hoisting the electric flag by joining the Jaguar I-PACE eTROPHY series just kind of fits."

The three-time IndyCar champion and Indianapolis 500 winner's team, Rahal Letterman Lanigan Racing, was the first to sign up to join Jaguar's new single-make championship, which begins in December 2018. (And yes, the Letterman in the title does relate to the involvement of famous US talk-show host David Letterman. Rahal appeared on Letterman's TV programme after winning the 1986 Indy championship; the two struck up a strong friendship that led to their business involvement in the current team.)

Rahal, 65, has a long-standing relationship with Jaguar too: he held a management role in the brand's Formula One team of the early-2000s; has run a Jaguar Land Rover dealership in Pennsylvania since 2001; owned a '61 E-type convertible and has driven various classic racing Jaguars. So his latest step seems a natural progression.

"I'm pleased to be selling the I-PACE as a dealer and entering it into racing →





“I love street racing – that feeling of being so close to the walls while being ultra-smooth and precise”

KATHERINE LEGGE

too,” enthuses Rahal. “It answers a lot of the demands people have for a car for the street. The I-PACE is eye-catching, there’s nothing like it out there. Jaguar has really ‘hit a home run’ with this one.”

The Jaguar I-PACE eTROPHY is the support series for Season Five of the Formula E Championship, with races taking place on the same race weekends as Formula E over the full 10 rounds. With up to 20 cars participating in each race, entrants get their own dedicated race engineer plus access to mechanics, branded livery, clothing and special hospitality suites too. A Jaguar VIP car will attend each

race as well, with a famous face from motorsport or beyond taking part.

“I have a lot of faith in Jaguar and M-Sport who is doing much of the technical operations work,” says Rahal. “The parties involved give us confidence it will be a very well-run series and provide a lot of excitement. Besides, electric vehicles are only going to get more sophisticated and capable, and through this programme we might help contribute to that evolution.”

The Jaguar I-PACE eTROPHY cars use the same 90kWh lithium-ion battery from the production I-PACE, but boast enhanced aerodynamics – most



NASCAR and Formula E veteran Katherine Legge was Bobby Rahal's first driver signing

visible in the adjustable rear wing – plus a host of race-safety and weight-saving measures, including a roll cage instead of rear seats and some aluminium panels swapped for composite.

For all his jovial enthusiasm Rahal is deadly serious about his team's entry into the series – “We want to win,” he states unequivocally – and has signed up two “very good drivers”, Katherine Legge and Bryan Sellers. “Experience, maturity and pace are the qualities that I was looking for when we chose our driver lineup,” he explains.

Ohio-born Sellers brings extensive experience in endurance racing, with stints in IMSA WeatherTech Sports car championship and the 24 Hours of Le Mans. Meanwhile, British-born but now US-based Legge is a veteran of not only petrolhead series such as NASCAR and DTM, but Formula E too.

“I’m stoked to be involved – it’s an iconic British brand and an iconic racing team,” Legge told *The Jaguar*. “I’ve

always loved Jaguars. I have special memories of my grandfather’s E-type.”

The potential of the series to spread a positive message about EV ownership also appeals to Legge: “Formula E has done a lot of good in promoting electric cars, but the I-PACE is even easier to relate to; it brings it closer to home.”

Does she think her Formula E experience will stand her in good stead for eTROPHY racing though? “Electric car racing does require different throttle modulation, energy saving and regenerative braking at certain points, but it’s not as big a step as some people think,” she reasons.

“There won’t be pitstops in this series so the races should be an out-and-out street fight. I love street racing – that feeling of being so close to the walls while having to remain ultra-smooth and precise.”

That will be music to Rahal’s ears – he knows all about taking his chances, but is level-headed enough as a team

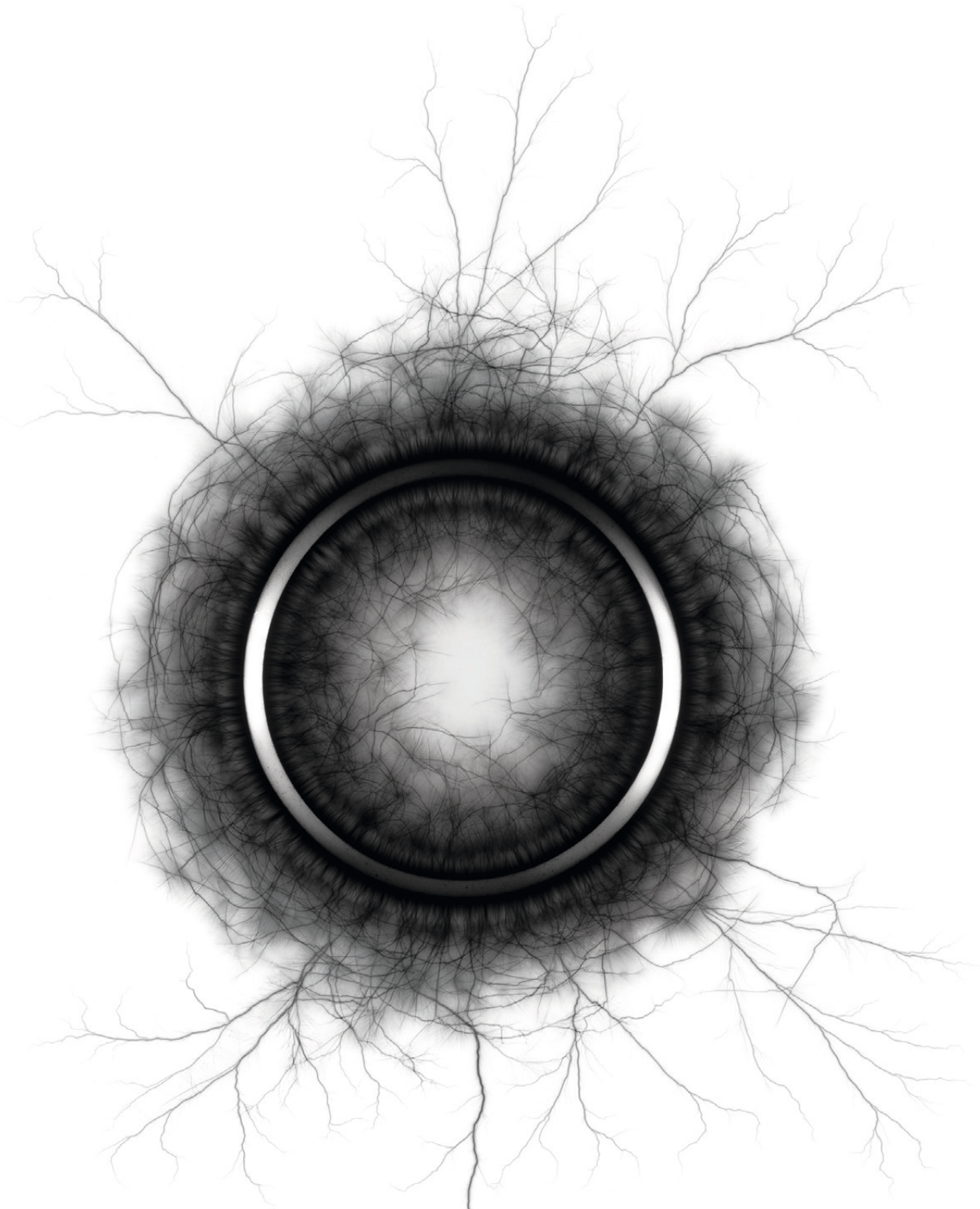
owner to know that consistency is as important as out-and-out speed.

“With lots of narrow circuits there are all kinds of opportunities to hit the wall,” he says with a smile, “so you want drivers who will make good decisions.”

Good decisions that will hopefully bring racing success, forecourt sales and excitement about the future of EVs in general, as Rahal concludes: “Everyone in racing wants to see the electric aspect of the sport grow. These series are bringing a lot of people to the sport who would otherwise not be interested. I think that adds to the value of motorsport in general. And when you look at the companies involved, it’s really the cutting-edge ones. They’re the ones that are going to play a strong role in the future of the automobile.”

With the I-PACE eTROPHY, Jaguar is at the very front of the grid. ■

Follow the Jaguar I-PACE eTROPHY racing championship at jaguarrracing.com

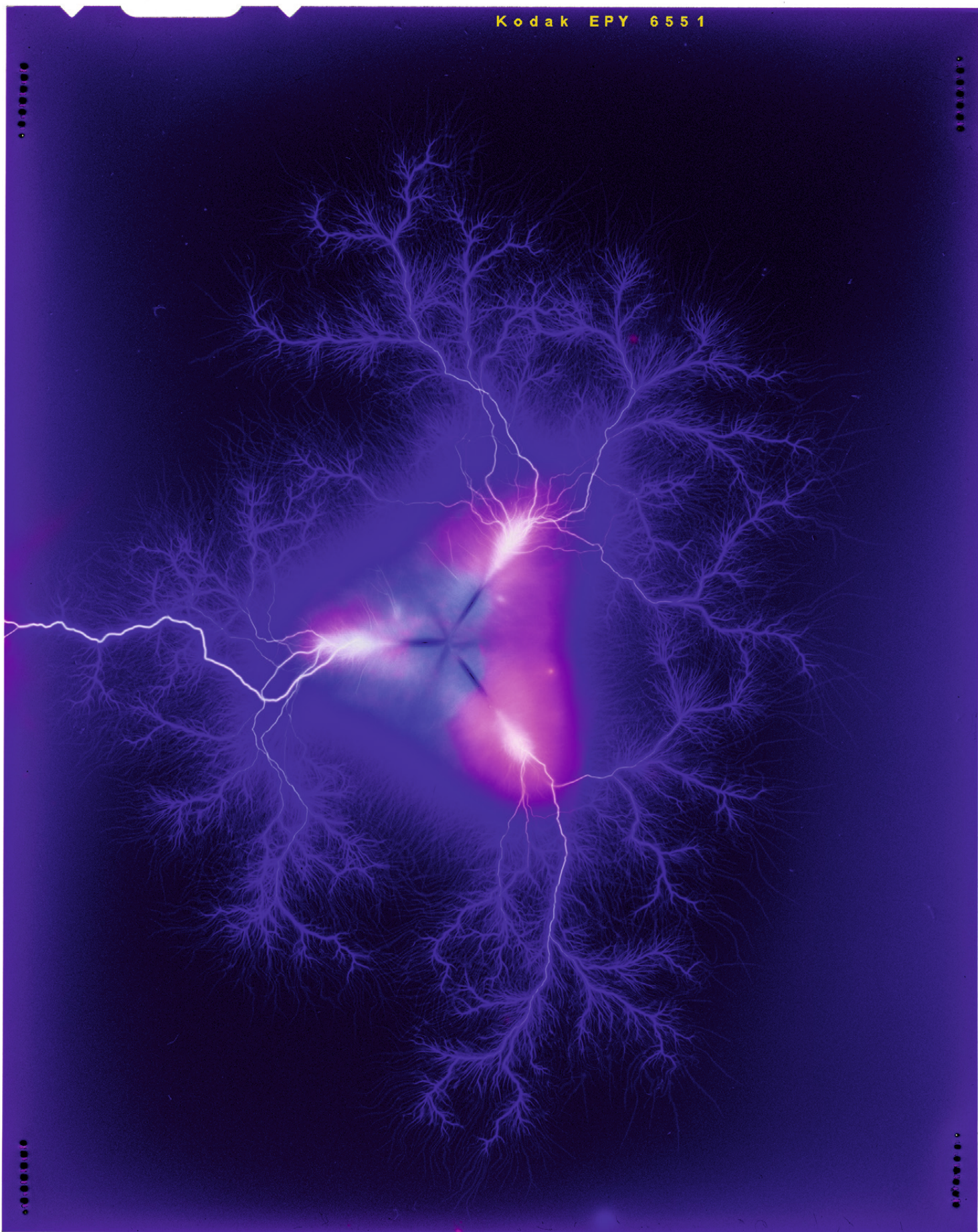


WHEN SPARKS FLY

CONTEMPORARY JEWELLER SEAN O'CONNELL
IS CREATING A BUZZ WITH HIS UNIQUE
WAY TO SEE ELECTRICITY IN A NEW LIGHT

STORY: *Melisa Gray-Ward*

Kodak EPY 6551





“SPARK IMAGING IS
A WAY TO SEE BEYOND
THE NORMAL OUTER
SURFACE OF THINGS,
AND TO DELVE DEEP”





For the creator of some of Australia's most innovative contemporary jewellery, Sean O'Connell is remarkably off-grid: he works from a repurposed shipping container in rural Tasmania, surrounded by 350 acres of idyllic bushland. "The movement and growth in the natural world reveals connections between material, form, and movement in the most efficient and beautiful way," he explains.

O'Connell's exploration of this relationship is evident in his Spark range of jewellery that combines sophisticated design and unique materials with traditional craftsmanship. O'Connell then photographed electricity surging through his creations, to produce a secondary set of standalone work – *Material Studies: Spark*, an arresting series of photographs which accompanies the Spark rings.

It's an approach O'Connell began contemplating while completing his doctorate at the Sydney College of the Arts. "My research centred on finding ways to see beyond boundaries we impose between individuals, cultures, objects and ideas. There were several experiments which I documented in photography, film and sound," he says.



Australian artisan and artist Sean O'Connell trained in object design and gold and silversmithing before his PhD experiments led him to explore the fine art of electricity

One such experiment saw O'Connell develop a range of high voltage audio oscillators. It was the origin of his signature spark imaging process. "I was looking for common undercurrents and connecting threads," he says. "The way electricity moves across boundaries, between objects and within the structure of things."

As such, spark imaging for O'Connell is a means "to see beyond the normal outer surface of things that photography shows, and delve deep into the structure of matter. It's an energetic perspective of the world".

So while each ring initially appears as merely a product of its form – think stainless steel, silicon nitride, chrome or titanium tubing – on closer reflection the works reveal fascinating kinetic elements that are shown in the photographs. As O'Connell explains: "Spark imaging allowed me to see the crystalline structure of meteoric steel displayed in patterns of electrical discharge, or to find fine flaws and cracks in material too fine to be seen with a magnifying glass, through the persistent arc of sparks along the flaw."

Spark imaging is nearly as old as photography itself, but O'Connell has expanded the possibilities. "The equipment I use, patched together from old Tesla coil circuitry and my own designs, allows a much greater range of materials to be examined," he says of images created by placing the film on top of a thick copper plate. "The sample is laid directly on top of the film, and an electrode connected on top. Another electrode connects to the copper plate, and up to 60,000 volts are pulsed through the sample. Sparks move through the sample, taking on the form of the internal structure, and releasing out across the photographic film and exposing it."

O'Connell sees himself as a jeweller who merely uses photography as a means of expression. Nonetheless, his next project for 2019 – *Matter Reanimated*, a collection of images of 100 materials used in daily life – will go even deeper by also engaging auditory senses: "The exhibits will be accompanied by a video stitching together hundreds of still frame spark images, using audio generated by the spark frequencies."

In acknowledging the uniqueness of his work, O'Connell also recognises the creative values that connect him with a wider community of makers. "There may be no other jewellers who subject their work to high voltage electricity to make images, but there is a common understanding and appreciation of materials I share with other jewellers, and craftspeople in general," he says.

This appreciation for a material's fundamental qualities, coupled with his desire to innovate, is ultimately what has jolted O'Connell's work into a realm of its own. ■

AN ODE TO THE NON-CONFORMIST

DOES IT PAY TO GO AGAINST CONVENTION? NOT FITTING IN MIGHT, IN FACT, BE WHAT MAKES US THRIVE, POSITS DALLAS CAMPBELL

When I was 15, I entered my school music competition with a piano piece that suited my musical abilities: 4'33" by the mid-century American avant-garde composer John Cage. As I opened the sheet music and adjusted my posture, I began, knowing full well my fate. For those unfamiliar with it, it's four minutes thirty-three seconds of total silence. Technically easy to play, but difficult to pull off in public – you have to really commit. About a minute in, I was interrupted by the teacher who threw me out of the theatre to the laughter of my friends. I shouldn't have expected anything less. It was a risky move, calculated to enhance my school reputation as a rebel and class clown. Looking back, it was a risk worth taking. It would have been a travesty if the teacher had let me finish.

Like you, my journey through life has been a constant tug between the safety of conformity, and the urge to want to push against the status quo. No matter how much we like to think of ourselves as free thinkers, the reality is different. Like all animal behaviour, ours is shaped by millions of years of evolution. We are pack animals. Conformity isn't a choice, it's our hardwired default factory setting. The benefits of group cooperation, altruism, and respecting our elders have contributed to our species' extraordinary success.

When it comes to important decision making, for example, the collected wisdom of the group is generally better than that of the individual. The mechanics of this have been unpicked by decades of inquiry by psychologists and neuroscientists who have seen directly how the brain responds when confronted with social cues: when your actions or opinions deviate from the group, your brain's medial prefrontal cortex will tell you that something's wrong and snap you back into line. You live on a spectrum of conformity versus non-conformity, set against a constantly shifting cultural backdrop that is forever in motion.

But imagine a world where everyone did what was expected? If conformity is the fabric that holds our



institutions together, then non-conformity is the colour, pattern and texture. Where would we be as a species without those great imaginative leaps that further our understanding of nature? Progress in science starts with the ability to be able to imagine something else.

Copernicus, Galileo and Darwin, despite being subjected to rigid social and religious paradigms of their age, freed us from our intellectual prison, allowing us to see nature as it is, not how we wished it to be. Rebellion has always been the primary driver of human culture: imagine if the audience had sat quietly at Stravinsky's premiere of *The Rite of Spring*, or if The Sex Pistols (pictured above) hadn't gone on their infamous Thames boat cruise because they couldn't get permission. What about *The Breakfast Club* without Ally Sheedy shaking out her dandruff? Imagine if John Kennedy chose not to go to the moon because it was just too hard. Or if suffragette Millicent Fawcett hadn't had the courage to call, "Courage calls to courage everywhere".

It takes courage to think and act differently. Fear of looking foolish, fear of authority, and particularly fear of failure are powerful forces battling to keep us in line. In our increasingly risk-averse, feedback form obsessed, hyper-connected world, it might seem safer to follow the herd. But as the author JK Rowling told a class of Harvard graduates so eloquently, "It is impossible to live without failing at something, unless you live so cautiously that you might as well not have lived at all. In which case you fail by default."

Sometimes it's worth throwing your caution to the wind. For the benefit of us all. ■



Dallas Campbell presents ambitious factual television programmes, such as *Supersized Earth*, *City in the Sky*, *Bang Goes the Theory* and *Egypt's Lost Cities* for the BBC, and *National Geographic's Science of Stupid*. His book *Ad Astra: An Illustrated Guide to Leaving the Planet* is available now.

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