DESIGN& CRAFTSMANSHIP



## ISSUE 14 AUGUST/SEPTEMBER 2019

**TRAVEL** The exclusive LEKKERWATER BEACH LODGE in the pristine De Hoop Nature Reserve HIGH FIDELITY Master craftsman SCHALK HAVENGA, maker of high-end valve amplifiers

DRIVE The refined power and handling of the LEXUS RC F UPCYCLED STYLE Meet JASPER EALES, the co-owner and designer behind Sealand Gear







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# BUILT FOR THE TRACK

The RC F and the RC F Track Edition have a low, muscular stance and aggressive race lines revealing their track-inspired DNA. They both have a three-dimensional spindle grille – which is an unapologetic expression of power – with a lower centre of gravity, amplifying the aerodynamics of the vehicle and making it impossible to ignore. Fitted with carbon fibre moulding technology developed for the Lexus LFA supercar, the RC F Track Edition is lighter and more ferocious than ever before.











# C O N T E N T S





# COVER IMAGE: Supplied



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South Point's JOSEF TALOTTA on the success of Johannesburg's reinvented inner-city precincts

CRAFTING AN URBAN BREW

HEN IT COMES TO URBAN RENEWAL, waterfront developments are relatively easy (except, perhaps, for Durban and Port Elizabeth, which seem to take a stop-start approach to their

respective waterfront projects). For most other coastal cities around the world, there's the cookie-cutter method: take an old working harbour – preferably with 1900s-era abandoned or underutilised warehouses – and add government/private-sector money. The end result is a mundane mix of internationally branded hotels and retail offerings, luxury apartments and waterside restaurants. Bingo! Seaweed becomes Cinnabon. It's a format that's worked everywhere from Puerto Madero (Buenos Aires), Porto Maravilha (Rio de Janeiro), the Inner Harbor (Baltimore) and the V&A Waterfront (Cape Town) to Darling Harbour (Sydney), Faneuil Hall (Boston) and Fisherman's Wharf (San Francisco).

By comparison, it's no secret that Johannesburg is a dump, albeit an addictively fabulous mining dump – and the source of

yesterday (preserving its heritage) or tomorrow (planning its future).

Carefully crafted urban renewal projects can redefine cities. Miami's Wynwood – previously full of chop shops and abandoned warehouses – has transformed from a don't-look district into a must-see destination. The neighbourhood, once known as "Little San Juan", has evolved into a series of inter-connected subdistricts centred on art, technology and fashion. Its rebirth was driven by a public arts project, Wynwood Walls, which now attracts about 150 000 visitors per month.

Likewise, Melbourne's laneways project has seen the revitalisation of dozens of the inner city's alleyways over the past 25 years into new-look laneways bursting with galleries, public art, greening, retail, restaurants, cafés and bars.

Reinterpretation of urban space is a global challenge, driven by urbanisation, economics, property development and increasingly savvy city governments competing for tourism and investment. Inclusivity is key – more so in the South African context, because

### "WHERE JO'BURG GOES, SO GOES SOUTH AFRICA - WHICH IS WHY RECENT DEVELOPMENTS AROUND ITS CITY CENTRE BODE WELL FOR THE FUTURE"

40% of all the gold ever mined in the Earth's history. More importantly, it's a definitive dump, one that's remarkably relevant and that serves as an insightful barometer of change. Because where Jo'burg goes, so goes South Africa – which is why recent developments around its city centre bode well for the future.

Over the past decade, Jo'burg developers have – for the first time in the city's history – been returning to areas previously abandoned by big money, creating new-use precincts out of nogo zones with varying degrees of success. New areas such as Victoria Yards, 1 Fox, Maboneng and Jewel City have been

developed out of underutilised buildings, while other areas like the southwest financial precinct, Braamfontein, Gandhi Square, the ABSA precinct and Newtown are being reinvented as fresh-look urban zones.

Jo'burg's mining-town history defines its skittish character. It was never destined to be a grand city with landscaped public squares and sweeping boulevards. Above all, it's a working town with a firm focus on today (and getting the cash to the bank before sunset), and not of our exclusionary apartheid spatial development policies. For us, "gentrification" is something to avoid; "regeneration" is far more appropriate.

In Braamfontein, property developer South Point's success (and good karma) is the result of its redevelopment of underutilised 1950s office blocks into student accommodation, creating more inclusionary high-density housing to underpin an eco-system that includes freshened retail, conceptual office space (including an NGO-dominant building) and public-space interventions. It's about riding the wave, rather than trying to

> create a new one. And it's something many of the Johannesburg city centre's most successful urban-renewal developers have in common: developing concepts that create tangible links to existing and surrounding communities, rather than importing new ones.

JOSEF TALOTTA is the executive head of precinct development for South Point, an award-winning property development and student-accommodation company in Braamfontein, Johannesburg.



# MORE THAN A FEELING

## RACING-INSPIRED ENGINEERING

Through its nearly mile-long straightaway and twelve unforgiving corners, the Fuji Speedway in Japan is our proving ground for performance. And it is from this world-renowned racetrack, and the silhouettes of the curves themselves, that our F SPORT range takes its name. From the muscular exterior design and sports-focused interiors to the expressive mesh grille and exclusively-tuned handling, every part of an F SPORT vehicle works together to deliver a look and feel of absolute exhilaration. And with special performance enhancements to the brakes, stabiliser bars, suspension, clutch and chassis, every drive is guaranteed to be a thrilling driving experience.





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# DIRECTIONS

# A PIONEER EVOLVES

The RX, the vehicle that helped establish the luxury SUV segment when it was first introduced in 1998, has undergone enhanced, evolutionary changes

EXUS HAS UNVEILED THE NEW RX luxury, revealing evolutionary changes to the model that helped establish the luxury SUV segment when it was first introduced in 1998. Scheduled to go on sale in South Africa later this year, the new RX is a testament to Lexus' ongoing commitment to maintain its status as a pioneer of the luxury SUV segment.

The new RX exterior retains a powerful and sporty appearance, with newly sculpted front and rear bumpers and a character line that now runs from the front of the vehicle to the rear, giving the overall appearance exceptional flow and consistency. There are also new slender headlamps with rear combination lamps that feature an L-shaped motif, resulting in an elegant, dynamic exterior that emphasises Lexus's new design language.









The RX's driving character embraces engaging Lexus performance and follows the path of LC and LS flagship coupé and sedan: the engineers scrutinised every part of the vehicle, making enhancements to the rigidity of the body and the suspension system, and adding a new shock absorber and brake control system. The result is a vehicle with an excellent handling feel and precision, allowing users to accurately trace their desired driving lines.

As ever, safety is front and centre in Lexus thinking, so the new RX is also equipped with the world's first BladeScan Type AHS and the latest-generation Lexus Safety System+.

LEDs IN EACH BLADESCAN MODULE CAST LIGHT DIAGONALLY ACROSS TWO BLADE-SHAPED MIRRORS THAT ROTATE AT HIGH SPEED

## ... AND INTRODUCES BLADESCAN

T HE FIRST OF ITS TYPE, this new adaptive headlight system will be introduced in the RX, confirming the brand's fine reputation for technical innovation. Lexus was the first car manufacturer to

introduce LED headlights with its LS flagship model in 2007, and the first to produce adaptive high-beam headlights, again initially for the LS, in 2012.

### HOW IT WORKS

BladeScan provides both an extended field of forward illumination and more accurate lighting control to support safer driving at night and in poor weather.

With the Lexus Safety System+ package of active safety features, the current RX already benefits from automatic or adaptive highbeam LED lighting. This maximises headlight illumination without the risk of dazzling other road users. BladeScan goes further by providing more precise photometric control of the illuminated area in front of the car, with accuracy to within 0.7 degrees (compared to around 1.7 degrees for the current technology).

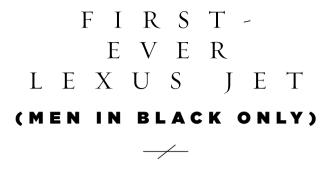
This means it can light up areas – such as road margins – that would be difficult to see with a conventional high-beam system, and give earlier illumination of road signs and pedestrians. With BladeScan, pedestrian recognition at night has been improved to 56 metres in front of the RX, compared to 32 metres with the current system.

While other manufacturers have increased the number of LEDs in their headlight systems to improve lighting resolution, the Lexus system uses a more cost-effective array of LEDs – 10 on each side of the vehicle in the case of the new RX. These are contained in a compact module located in the front corner of each headlamp, alongside the familiar triple-eye light arrangement. Rather than shining light forwards, the LEDs in each BladeScan module cast light diagonally across two blade-shaped mirrors that rotate at high speed. The precise synchronisation of the mirror rotation and the switching on and off of the LEDs creates the shading effect; the light is then reflected into a lens, which casts the beam on to the road ahead without the risk of dazzling oncoming traffic or drivers of vehicles ahead.









The Lexus QZ 618 Galactic Enforcer jet helps to save the universe with advanced and neverbefore-seen alien-fighting technology

Men in Black: International movie is the Lexus QZ 618 Galactic Enforcer jet – the first in the brand's new jet-class fleet.

Currently available exclusively to MIB agents, it is powered by hybrid transformer technology and, with the push of a button, smoothly morphs from a 2019 Lexus RC F sport coupé into the



most powerful IFO (Identified Flying Object) ever engineered by Lexus.

It is also the only Lexus available in the darkest black in the universe: UmbraBlack. In astrophysics, "umbra" is the coneshaped part of a shadow of a cosmic body that excludes all light from the original source. The QZ 618 is available in six other colours but, naturally, Lexus recommends UmbraBlack.

In a top-secret exchange of knowledge with an alien partner, Lexus was able to secure Quasar Power Source Technology (QPST), which uses the power of the nearest Active Galactic Nucleus (AGN) to travel anywhere in the universe in seconds.

# U P S C A L E D

A colourful and detailed artwork that evokes the shimmering quality of a fish's scales wins first prize in the LEXUS UX ART CAR competition

T THE CLIMAX OF the Chantilly Arts & Elegance Richard Mille held near Paris, Spanish art duo Antoñito and Manolín were awarded top honours for their work entitled "Gyorin Kozane" (Armour of Scales). The eye-catching creation proved hugely popular with thousands of visitors at the event, which is one of Europe's leading festivals of luxury motoring, arts and lifestyle, and is held in the grounds of the historic Château de Chantilly. Guests were invited to cast a vote for their favourite submission among four finalists, each of whom created a distinctly different treatment of the new Lexus UX compact crossover.

Antoñito and Manolín – also known as Trini Salamanca and Pablo Párraga – covered the UX with a red-and-blue organic mesh representing the skin of a fish, a motif that is frequently found in Japanese art and culture. The colourful wrap is a three-dimensional structure made from a bio-epoxy material, superimposed on the car's bodywork like a canvas. The convergence of contrasting qualities is in the same spirit as the *engawa* concept the UX designers applied to create the seamless connection between the inside and the outside of the vehicle.

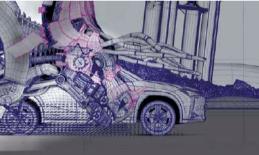
As the overall winners, Antoñito and Manolín will be hosted as Lexus guests at the 2020 Milan Design Week, one of the world's principal design showcases, where Lexus has had a major presence since 2005.



# THE FUTURE IS TODAY

We chat to Adam Weber of local ad agency M&C Saatchi Abel about the futuristic TV advertisement for the Lexus UX 250H SE self-charging hybrid





T'S A BRAVE NEW WORLD: recognisable, yet decidedly different. A cityscape; a dinosaur; a desert; a forest. And the Lexus self-charging hybrid dominates it all.

As Adam Weber, partner/executive creative director at M&C Saatchi Abel, explains, the concept behind this 60-second commercial is to bust the popular myths surrounding electric hybrid cars. "We also wanted to make the point that while the technology is very advanced, it's relevant and practical in the South African context," he says.

Opting for a computer-generated, animated treatment allowed imaginations to run riot. M&C Saatchi Abel thrashed out the concept, storyline and script before bringing Chocolate Tribe VFX and animation studio on board. Together, they mapped out constructs and made well-considered changes and tweaks to the storyboard. The result is nothing short of exceptional.

In the opening frame, an electric bulb puts the viewer in the right frame of mind. The car then moves inside the bulb, travelling down the filament before escaping out into different Dali-esque landscapes.

"Each scene in the futurist world we created is a metaphorical representation of a misconception about hybrid vehicles," Adam says. Against a starry backdrop, the car whizzes past plug points (that reach out like dead vines), driving home the message that it generates electricity without needing to be plugged in. It then roars through a series of cylindrical shapes that mimic the universal battery-charging icon. As it brakes briefly, the "batteries" ignite – pointing to the fact that the car charges up every time the brake pedal goes down.

Yet another misconception is smashed as the hybrid hurtles past a classically retro petrol station and into a vast desert. It intimates the car is heavy on performance – but light on fuel. The next apocalyptic scenario sees a rusty *Mad Max* dinosaur, composed of smoking diesel-engine parts, trying to keep pace with the sleek Lexus on the scorching sand. Within seconds, it buckles and falls to the wayside as the hybrid powers ahead.

As the computer-generated vehicle glides effortlessly over water that transitions into an emerald forest, the commercial makes the point that the car is an eco-conscious piece of technology that leaves no mark on the environment. A dark, urban scene follows, suggesting the blackened streets of South Africa during loadshedding. Naturally, the luxury self-charging hybrid is impervious to pesky blackouts...

It's a car that makes tomorrow work for today.

### **TECHNICAL FACTS**

The ad doesn't contain a single frame of live footage and everything you see is CGi created by the folk at Chocolate Tribe.

### CO-DIRECTORS

- Rob van den Bragt, Creative Director
- Adam Weber, Technical Director

**PRODUCTION TIME** 3 months for an ad length of 60 seconds

#### SOFTWARE USED

- · Autodesk Maya: modelling, 3D layout and animation
- Redshift 3D: lighting and rendering
- Nuke: compositing

### RENDERING

All done inhouse by the team at Chocolate Tribe. It took ...

- An average render time of 20 minutes per frame
- There were 1 500 frames
- 30 000 minutes render time
- Their inhouse render farm (a high performance computer cluster) processed all the frames. If this was all processed on one single processor it would have rendered over 200 days

# 

The Lexus UX crossover achieves the maximum 5-star vehicle safety rating in the latest 2019 EURO NCAP test results



OT ONLY DOES its bold design express unmistakable style, the new UX has also been confirmed as one of the safest cars of its kind for drivers and passengers.

It scored an adult occupant protection score of 96% and a child occupant protection score of 85% – one of the highest of any car that has been tested under the new, more stringent regimen. The UX also posted best-in-class figures for pedestrian and cyclist protection with its Automated Emergency Braking technology, providing a score of 82% in the vulnerable roaduser protection category.

Featuring the latest version of Lexus Safety System+(available in F Sport), the brand's advanced package of active safety technologies, the new Lexus crossover also boasts outstanding passive safety credentials resulting from its ultra-rigid Global Architecture-C platform and eight airbags fitted as standard.



## G O O D W O O D Debut

With its unveiling at the Goodwood Festival of Speed, Lexus confirms that a dramatically styled LC 500 CONVERTIBLE will be going into production

ISITORS TO THIS year's Goodwood Festival of Speed in the UK witnessed the world debut of an LC convertible prototype in action. The new model took its place among some of the most exclusive and prestigious new cars at the world-famous event, with professional racing driver Nick Cassidy driving the LC convertible prototype up the iconic Goodwood hill.

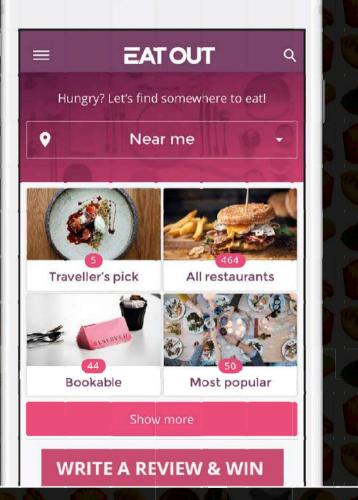
The prototype may have been liveried in distinctive camouflage, teasing the design details and dynamic capabilities of the full-production version, but even through the disguise, the long, low and lean lines it shares with the coupé's athletic proportions are evident. Its large wheels and short overhangs indicate its performance pedigree, and signal a rewarding driving experience.



# 

Afrikaans songstress Demi Lee Moore collects her brand-new Lexus UX 200EX at Lexus South Africa. Handing over the keys is Calvyn Hamman, Senior Vice President Sales and Marketing at Toyota South Africa Motors.

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# T H E A R T O



# F L I V I N G



The new eco-sensitively designed LEKKERWATER BEACH LODGE in the Western Cape's pristine De Hoop Nature Reserve offers a unique marine safari experience



WORDS AMELIA BROWN

## M A R I N E

# M A S T E R P I E C E

TAYING IN SUCH CLOSE proximity to the sea in the quiet of a mostly uninhabited marine reserve, you're reminded why the word "crashing" is such an apt way to describe the sound of waves. It's visceral; a fast-acting way

to clear the mind. Falling asleep and waking up to that sound is one of the many reasons that Lekkerwater's location on a six-kilometre stretch of private beach is so special. With dolphins frolicking in the surf metres away from your balcony, you realise what a privilege it is to be here.

Over the course of your stay, you'll be reminded of the magic of this setting again and again, be it by learning about the area's history (caves have been discovered with evidence of inhabitants from 65 000 years ago), exploring the rich biodiversity of land and sea on one of the guided walks, or having dinner on the beach under the stars. Then there's the whale watching, where you'll find the floor-to-ceiling view from your bed is one of the country's land-based best. From July to





November (and sometimes even early December), Southern right whales migrate to these warm waters from Antarctica to calve.

Not only does the shoreline offer ideal conditions for an incredibly rich inter-tidal zone, with rock pools exposed as the tides change, but the De Hoop Marine Protected Area extends the entire 46km length of the park and five kilometres offshore. Fishing and marine exploitation of any form are prohibited, creating an aquatic game reserve and giving new meaning to the name Lekkerwater (which translates as "good water").

De Hoop's transition to a reserve was not initially for conservation reasons. In the 1980s, the South African military and Armscor were seeking a missile-testing site, and expropriated about 60km of coastline (and large swathes inland) from farmers and holiday homeowners to make way for this facility. Later, the easternmost 46km of coastline and 34 000 hectares of land were deemed to be superfluous, and were ceded to Cape Nature to be managed for conservation purposes. That's when De Hoop was created. Here, in this secluded and remote setting three-and-a-half hours' drive from Cape Town, then-president FW de Klerk decided to build his "Camp David", which he used as a sanctuary while he was in office. After 1994, the management of the property was handed over to Cape Nature. Visitors to the area could rent it out – until 2015, when a storm lashed the coastline and a lightning-induced fire ravaged much of the reserve, including Lekkerwater.

It was then that Natural Selection took on the concession to create the first property in South Africa to join its portfolio of luxury lodges and camps on the African continent. The project wasn't without challenges: despite having access to a long stretch of private coastline, the new design had to stay within the exact footprint of the original property, which demanded creative problem-solving when it came to the layout and the best ways of accommodating guests and staff. Below, clockwise from left Sundowners and beach dinners are organised on request; each bedroom has an original painting by Jemima Sargent, with subjects inspired by De Hoop's landand sea-based flora and fauna; a percentage of each guest's accommodation fee goes to Cape Nature or the government to be used for the reserve's running costs and conservation efforts; activities include marine exploration and tidal walks. Opposite, from top Lekkerwater's cuisine celebrates the culinary history of South Africa as well as ingredients from the region; the lodge's small hospitality team is integral to the experience. Opening spread The main lounge/dining area features original sketches by artist James Dumo.





The result is seven individual en-suite rooms, each with a private balcony and wood-burning stove, and a main lounge/ dining area. As with all Natural Selection properties, the lodge has been built (and is operated) with consideration for the environment. The interiors prioritise relaxation and comfort, and feature neutral tones and shades of blue, as well as natural textures and local art. Artist James Dumo was commissioned to draw 19 original sketches for the dining area – they form a wallpaper timeline depicting the history of Lekkerwater.

With a restricted amount of space to accommodate staff on the property, the beach lodge has a small operating and hospitality team. Natural Selection has plans to develop a second lodge in De Hoop, called Bloukrans. Situated 12km east of Lekkerwater, it will offer guests different activities and enable them to stay on for longer in the reserve. naturalselection.travel

# THE WONDER

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In Norwegian, "under" has the dual meaning of "below" and "wonder" – which is why it's an apt name for the world's largest underwater restaurant, partially submerged on the southernmost point of the Norwegian coastline

WORDS AMELIA BROWN

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F

FF THE CRAGGY COASTLINE OF Lindesnes, Norway's southernmost region, the Skagerrak and the North Sea converge, resulting in strong currents and winds. While rough seas and inclement weather once made it a potentially perilous route for sailors, today they make for the wonderfully dramatic setting of Under, the world's largest – and Europe's first – underwater restaurant.

The building itself contributes to the drama. Appearing as if somehow washed ashore, the half-sunken 34m monolithic structure rests directly on the seabed five metres below. Boasting thick concrete walls to withstand the forces of its harsh coastal context, this feat of engineering was masterfully designed by Norwegian architecture firm Snøhetta.





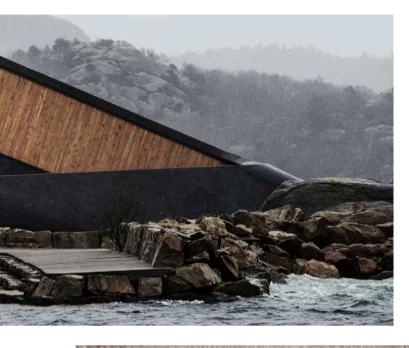
The project was divided into three pillars: marine biology, architecture and gastronomy. Before any work began, research was done on the ecology and geography of the site. One of the goals of the project is to expose visitors to the biodiversity of the North Sea, and for the building to act as a marine research centre.

The "pipe", as architect and founding partner of Snøhetta Kjetil Trædal Thorsen described it, was constructed on a barge and transported to the site so as to have as little impact on the ecology as possible. It's been designed to integrate fully with the marine environment over time: the rough concrete shell will eventually function as an artificial reef. Cameras and other measurement tools have been installed in and on the facade with the goal of documenting the population, behaviour and diversity of the species that live around the restaurant.

The restaurant's panoramic window, which measures 11m x 3m and spans the length of the restaurant wall, affords visitors an ever-changing view of the seabed as it evolves through the seasons and varying weather conditions. Under has three levels, including a foyer and a cloakroom, a champagne bar, and the main fine-dining restaurant on the lower floor.

Under's final pillar – gastronomy – has been brought to life by head chef Nicolai Ellitsgaard. The 18-course "immersion" menu celebrates local, seasonal and wild Norwegian ingredients, many of which – like sea rocket and salty sea kale – would have been foraged from the beach itself. Nicolai spent more than a year prior to the restaurant's opening planning the menu, foraging and exploring new ways of using locally found fare.

Visiting this "sunken periscope", as the architects have described it, is a sensory experience, with flavours that tell the story of the setting.





This page Designed by Norwegian architecture firm Snøhetta, the three-level structure rests directly on the seabed, appearing to have "washed" ashore; a staircase leads to the main fine-dining restaurant on the lower floor; fresh ingredients and pure flavours provide diners with a unique experience that takes them out of their comfort zone.

**Opening spread** Under's panoramic window offers a visual gateway to the sea, and is a fitting backdrop for chef Nicolai Ellitsgaard's 18-course "immersion" menu.



### FORAGED FINE DINING IN SA

Three award-winning restaurants in the Western Cape are elevating locally found fare:

### WOLFGAT, PATERNOSTER

The winner of Off-Map Destination and Restaurant of the Year at the World Restaurant Awards 2019 expresses its coastal context with vegetation from the beach and other indigenous ingredients, and the vision of its chef Kobus van der Merwe. **wolfgat.co.za** 

#### FOLIAGE, FRANSCHHOEK

Chef Chris Erasmus has a talent for creatively recasting humble, hyper-local and unusual ingredients. **foliage.co.za** 

### FORAGE AT WILDEKRANS, OVERBERG

Chef Greg Henderson's menu is built around seasonal ingredients foraged from the surrounding pastures or sourced from local artisans and farmers within a 100km radius of the restaurant. wildekrans.com/forage-at-wildekrans.html VALVE AUDIO's humble head honcho is a world-renowned builder of hybrid vacuum tube amplifiers



WORDS & IMAGES DAVE SOUTHWOOD

## A U D I O M A S T E R

## SCHALK HAVENGA

HE "ABOUT" SECTION of Valve Audio's website (valveaudio.co.za) has a touching biography of Schalk Havenga, the guy who runs the show. It paints an intimate portrait of a small boy growing up in the sparse Karoo, for whom the radiogram in the lounge was not just a technical puzzle, but an intimate connection to faraway worlds and their inhabitants. "Schalk remembers the early years lying on his stomach, peering through the wooden slats of the receiver's cabinet at the two solder eyelets on the large speaker cone, moving and vibrating in unison with the music or voice," reads part of the biography.

The concept of an instrument's "voice" is a divisive idea in the world of sound, because it's so subjective. Put simply, it relates to the character of the sound emitted, which in turn determines the warmth and accuracy with which the instrument can potentially communicate. It is for this reason that many audiophiles use the human voice as a barometer for measuring the degree to which a hi-fi can reproduce the actual experience of being at a live event – how effectively the body of the listener can time-travel to the ambiance of the original live setting.

Consequently, amplifier circuit typology will be designed to produce a particular distinct voice. In the world of hi-end audio, the realm in which Schalk has become a guru, this signature is what will keep fans glued to their speakers and committed to a product for decades. Valve Audio just turned 25. To understand what Schalk does, you need a basic understanding of audio valves. These vacuum tubes that sat at the heart of most circuitry before they began to be phased out around the time of the moon landing were relatively large components that couldn't be included in small circuits. They were also expensive and fragile compared to their replacements, transistors, which were efficient, small, cheap and remained cool.

Tubes look and behave like old globes, and because they emit so much heat and light that their constituent materials stress and fail after a time, their performance in a circuit is variable. With the same unit of electricity, a transistor circuit can provide much more grunt than an equivalent valve-based system. Each has its advantages and drawbacks.

The Valve Audio stable of products is based around the idea of hybrid systems, which utilise the pros and cons of both transistor and valve technology. Tube systems produce a smooth, rounded waveform, while transistor amplifiers' waveforms are generally more square and edgy, and create a more "linear" or "accurate" sound. Unsurprisingly, the jury is divided on sound quality. It's at this barely discernible (and, one might argue, inaccurate) softening of the signal that Schalk has positioned himself – because it sounds more agreeable and isn't fatiguing. It's in the production of the chamfered tube waveform that "second-order" harmonics are generated, and it's this almost–imperceptible richness that makes Valve Audio products so satisfying and smooth–sounding.







**From top** Schalk Havenga's philosophy is to let the valve be the "beauty" and the transistor the "beast"; valves are fragile, and the heat they emit can make their performance variable; the 200W Valve Audio Predator amplifier.

The benefit of a transistor power-amp section, within the typology of a hybrid amplifier like Valve Audio's, is that it has oomph: it can accept the vibrant and dynamic signal from the tube section, and supply the speakers with more than enough juice to sing. Most fully transistor amplifiers are powerful, but sound etched and dry – and most full tube systems sound very dynamic, gracious and warm, but are lacking in detail and deficient in pace and accuracy. Valve Audio combines the best of both.

What is supposed to be a one-hour meeting with Schalk turns into four hours. He shows me what he's building, maintaining and upgrading in his workshop, and it's as if every bit of kit has its own personality and provenance. At the apex of the Valve Audio range is the Genesis hybrid stereo power amplifier, a 75kg behemoth that takes three months to build and costs R279 000. (This is cheap in high-end audio terms.) He's constructing a Genesis now; it's on its flank with the hood removed. The artistry and care taken in the construction are astonishing. Adjacent to the Genesis is the smallest VA product, the Exclamé, which is a neat and elegant integrated amplifier costing R28 000.

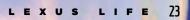
While climbing back into my car, I recount the acquisition story of my own Valve Audio amplifier to Schalk. It started with a late-night eBay bid, a year-long wait until I could get to the US to fetch it, some pretty irate wives of friends who had to stash the bulky unit until I arrived, and some fancy customs footwork.

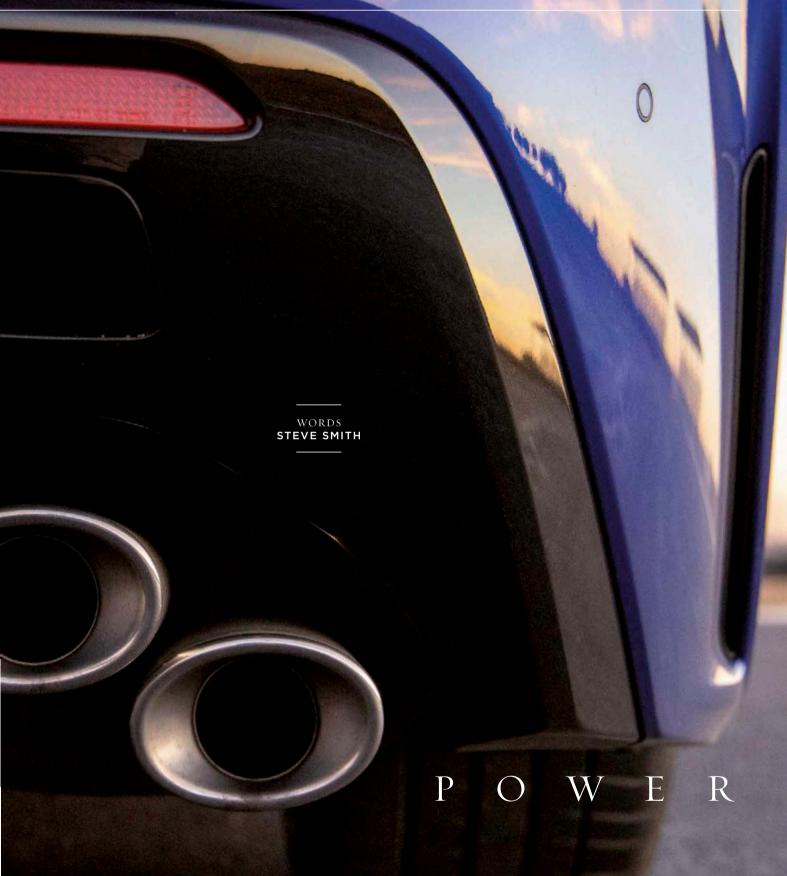
Schalk pauses and, with a sincere inclination of his head, says, "Thank you for bringing her back, Dave."



# C O N T R O L L E D

The LEXUS RC F debuts in South Africa, bringing V8 power, enhanced dynamic handling, improved aerodynamics and grippier tyres





ROM BEHIND, THE LOW, late-afternoon sun casts an orange glow across a series of fast, flowing corners on the R511 north of Johannesburg. The newly surfaced asphalt is billiardtable smooth, and the beautifully cambered bends invite a flex of the right ankle. The response is typically Lexus – a smooth, linear delivery of power and tons of grip as the RC F hunkers down, swooping left and then right, the chassis exhibiting perfect body control to manage the shift of weight from one side of the car to the other.

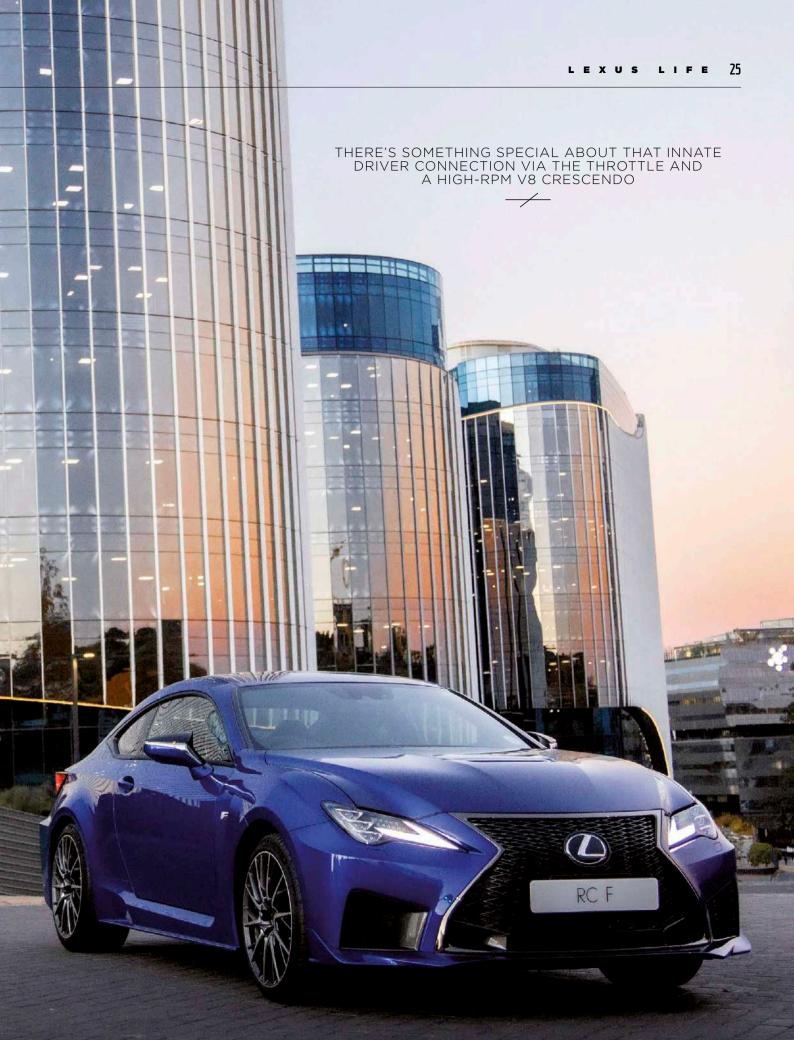
**THE DRIVETRAIN** There's something special about that innate driver connection via the throttle and a high-rpm V8 crescendo – it's a blend of aural satisfaction and superb performance that stirs the soul. The RC F's free-breathing, 5.0-litre V8 delivers maximum power of 351kW at 7 100rpm, and peak torque of 530Nm between 4 800rpm and 5 600rpm. The highly sophisticated 2UR-GSE petrol engine, finely crafted with forged connecting rods and titanium valves, is lighter, becoming Euro 6 emissions-compliant for the first time.

This power is transmitted to the rear wheels via a sophisticated eightspeed torque converter automatic transmission, equipped with newly developed Artificial Intelligence Shift control. Offering ECO, NORMAL, SPORT S, SPORT S+ and CUSTOM modes, the centre console-mounted Drive Mode Select dial allows you to select the one that suits your intentions. In SPORT S and SPORT S+ modes, the transmission delivers more aggressive tuning with even quicker downshifting than the Lexus LC sports car. In ECO mode, the engine output, throttle opening and air conditioning are automatically controlled to enable fuel-efficient driving. It shares a standard level of electric power steering assistance with NORMAL mode, which delivers a balanced feeling of acceleration and smoothness.

**THE CHASSIS** Enhanced steering effectiveness and reduced understeer were core development targets for the RC F, with lighter and stronger chassis components now delivering an even more agile and dynamic driving experience. Highlights of these enhancements are a steering spring rate that has been increased by 150%, reducing understeer and improving driver feedback, while alloy front suspension upper supports and rear toe control arm brackets offer significant weight reductions and greater rigidity.

The RC F's highly specialised Adaptive Variable Suspension (AVS) has also been improved thanks to faster, smoother and more precise damping force adjustment. The linear solenoid installed inside each SACHSdeveloped AVS monotube shock absorber can adjust damping force across a range of 30 levels. Newly developed Michelin Pilot Sport 4S tyres have also been tailored specifically to the RC F and further improve turn-in grip, power-down on corner exit and lateral cornering Gs, particularly at high speeds.







NEWLY DEVELOPED MICHELIN PILOT SPORT 4S TYRES HAVE BEEN TAILORED SPECIFICALLY TO THE RC F

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**ENHANCED AERODYNAMICS** It's a case of racetrack tech translated to the road with the RC F, and learnings from the RC F GT500 and RC F GT3 race cars have not only given the RC F unique and eye-catching aesthetics, they've also had a significant impact on the car's aerodynamic characteristics.

"Every shape has been given function, embodying 'race-bred design'," says Lexus RC F chief of development Yuichi Tsurumoto. "Extraordinary effort has been placed on reducing front lift. As a result, even at ultra-high speeds of about 250km/h, the front feels firmly planted on the road surface."

For example, new canard shapes on the front-bumper spoiler corners help optimise stability across a variety of speeds by increasing the vortex generated, therefore resulting in greater downforce pressure and a more planted feel.

For the first time, air breathers have also been added to the rear bumper to exhaust air from the rear wheel arch, helping to deliver more predictable vertical movement and lateral behaviour. A redesigned rear diffuser – painted in body colour for the RC F – incorporates vertical fins to further assist airflow.

**LUXURY AND SAFETY** Significantly improved aerodynamics, handling and performance have not come at the expense of luxury, refinement or safety, though.

Heated and ventilated seats are standard for the driver and front passenger on all variants, as is the electrically adjustable steering column. The driving position is set low for a sporty feel, while access to the rear seats is aided by electrically adjustable front seats with a one-touch walk-in function that automatically slides forward, then returns to position.

All RC F variants feature an expansive 10.3-inch widescreen centre display with satellite navigation, digital radio and Bluetooth phone and audio streaming, including voice recognition. There's also a 17-speaker Mark Levinson audio system that ensures the crisp sound quality befitting of a premium sports coupé of this calibre.

Like all RC variants, the RC F is equipped with the highest level of safety technology, including the Lexus Safety System+ suite of driving aids: Pre-crash (Brake Synchronised) safety system with pedestrian detection, Standard-Adaptive Cruise Control, lane-departure warning with steering assist, and LED Automatic High Beams. Blind-spot monitor, reversing camera, front clearance, rear parking sonars and rear cross-traffic alert are also standard.

The new high-grade LED headlights and L-shaped taillights flick on automatically – an indication that the sun has now truly set. In the distance, the city lights begin to twinkle and serve as our homing beacon. With the Drive Mode Select set to ECO, we take a slow cruise back to our lodgings in Sandton, suspension settings and throttle responses all dialled down, and seat warmers and climate control turned in the opposite direction to fight off the Highveld's winter grip. Cooling down in the underground parking, that glorious V8 pings and ticks as the metal once again contracts...











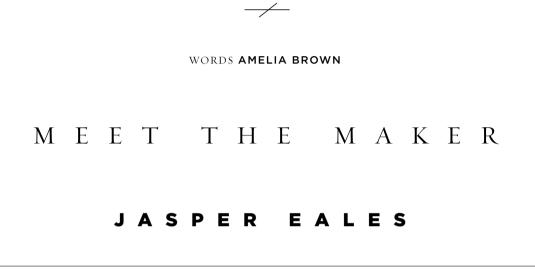
**Above** The RC F's 5.0-litre V8 delivers maximum power of 351kW at 7 100rpm, and peak torque of 530Nm between 4 800rpm and 5 600rpm.

Left Improved handling and performance have not come at the expense of luxury or refinement: the seats are large and smoothly stitched, the thick-grip sport steering wheel moulds to the driver's hands, and the dashboard and other fixtures are finished with consistent quality.

**Opposite, from top** Heated and ventilated seats are standard for driver and front passenger on all variants; contrast stitching and carbon-fibre trimming add to the luxurious feel; the track-inspired LCD display within the gauge cluster shows all the data needed to achieve optimum performance; the Remote Touch trackpad is the driver's link to the multimedia system.

# THE CURATORS

Surfer. Designer. Manufacturer. Entrepreneur. Liver-transplant survivor. Environmentalist. We get to know product designer and co-founder of SEALAND GEAR Jasper Eales



G ROWING UP IN THE PICTURESQUE Cape Town enclave of Llandudno – a thirdgeneration Llandudnian, in fact – Jasper Eales's career was (unsurprisingly) destined to be interwoven with the sea. As a child, he dreamt of being a creator and "inventing cool things" – well, that or a pro surfer. His parents, creatives themselves, fostered and encouraged his passions. Jasper completed a degree in industrial design and launched his own productdesign company.

In 2015, he teamed up with fellow surfer and ocean lover Mike Schlebach to launch Sealand Gear. Driven by sustainability, environmental awareness and a love of the great outdoors, the brand's urban adventure gear is handmade from upcycled yacht sails, Bedouin stretch tents, advertising banners, recycled plastic bottles and other durable materials that would otherwise end up in a landfill and take years, if not centuries, to biodegrade. The award-winning brand has flourished in the four years since its launch, with steady growth around the world and a flagship store that opened earlier this year in Cape Town. Jasper and the team are working on a collaboration with an internationally recognised shoe brand, with the hopes of releasing a sustainable Sealand shoe in 2020. He's also spearheading the development of a Sealand cooler bag, which will launch in time for summer.

A self-confessed "man of many things", Jasper and his partners plan to create a foundation as an extension of Sealand that will focus on funding and supporting sea and land conservation and development organisations. Health is another of Jasper's passions, not least because he's a full-liver-transplant survivor, and he's involved in the online food business Fresch Online, which offers pantry staples from nuts and dried fruit to the healthiest granola, and is soon to release a range of superfood smoothie blends. Balance and personal satisfaction are key in all he does.



**EARLIEST DESIGN MEMORY** When I was a boy, my dad taught me woodwork – he designed and built a beautiful wooden push car for me. Around the same time, my grandfather and I designed and built a go-kart. As I grew up, I began to appreciate the design company that my mother started (Naartjie clothing), and I started to see the bigger world of design. In my final year of junior school, I designed and hand-shaped my first surfboard – which is what I learnt to surf on.

**DESIGNERS I ADMIRE** Locally, I admire guys like sculptor Otto du Plessis, furniture designers Gregor Jenkin and James Mudge, artist and blacksmith Conrad Hicks, and designer Porky Hefer. Internationally, I aspire to Patagonia's founder Yvon Chouinard and pro surfer and environmentalist Kelly Slater.

**WHAT INSPIRES ME** People and places. I'm inspired every day by different things – an interesting conversation, a hike up a mountain, a trip exploring a different city or retail culture. The outdoors keeps me fuelled, and constantly inspired to keep dreaming and searching. Music keeps me upbeat. It all fires my drive to create, to do business differently, and to enjoy the journey.

**DESTINATIONS ON MY BUCKET LIST** Japan, Morocco, the Philippines, Transkei, Lesotho and the Drakensberg.

**THE MOST MAGICAL PLACE I'VE VISITED** There've been a few, but Chacahua – a remote village on the coast of Mexico – stands out. I lived with a local family for four months in a *palapa* on the beach, surfing the best waves, eating freshly caught fish, and living a simple life without a care in the world. (Besides the cyclones, that is!) I also recently visited Amsterdam, a beautiful city with a forward-thinking, sustainable outlook. And then there's Llandudno, the place I call home. No matter where in the world I travel, I'm always excited to come home – which says a lot.

**TRAVEL STAPLES** Comfortable shoes, an open mind, a desire to explore, and my medication. Post-liver transplant, I'm a slave to my meds, and can't go a day without them.

**THE LAST PLACE I VISITED - AND WHAT I BOUGHT** On a recent business trip to Europe, I visited London, Amsterdam, Copenhagen and Paris. I returned with a few gifts: a clever reusable cutlery set for life on the go; a newly designed reusable water bottle with a built-in purifier that uses UV; and a linen suit for special occasions.

A BUILDING OR SMART DESIGN THAT STANDS OUT FOR ME

The sculptural brilliance of the Afrikaans Language Monument in Paarl blows me away every time I see it. I'm also fascinated by the beautiful restoration of the silos at the V&A Waterfront. And when it comes to smart design, my iPhone 8 Plus is an amazing piece of tech: it puts the world at my fingertips and the office in front of me, it makes communication possible, it has a high-quality camera... It does, however, require discipline for it not to become a distraction! **WHAT I'D PUT IN A TIME CAPSULE** My car: a Toyota Land Cruiser 78 Series (Troopy). It's a limited-edition shape and the ultimate adventure vehicle, built to handle any obstacle and last a lifetime.

**MY TAKE ON THE AFRICAN AND SOUTH AFRICAN DESIGN LANDSCAPE** It's creative and innovative. There are plenty of internationally regarded South African artists, sculptors and designers making a name for themselves. Our geographical location creates some challenges, as does our currency, and I feel there's a lack of support for emerging creatives and business owners – but we're hungry to make it happen, to show the world what this incredible place at the tip of Africa is capable of. And if we're clever about it, we can use our weak currency to our advantage.

**BEST ADVICE I EVER GOT** Seek balance in life while making sure to live every day to its full potential. Look people in the eye when you speak to them. Smile and laugh regularly. Nurture your family – they are your ultimate support. Work hard, and finish what you start. Be the 5% that the 95% wish to be.

**WHAT I LOVE ABOUT MY HOME** The lifestyle and access that it offers: it feels removed, yet just 20 minutes away from the Cape Town CBD; it's in a safe, community-driven environment and quiet at night; and it's a stone's throw away from the beach, allowing for frequent surfing and daily walks. Its positioning and layout mean it's private both inside and out. It's a homely surfers' hangout with great natural light – a work in progress!

**AN OBJECT OF DESIRE** A safe, stylish, electric city runabout.

**A DESIGN PIECE I COVET** A Wavescape surfboard with artwork by Beezy Bailey.







This page, clockwise from top Jasper's designs include the "Soul Arch" coffee table, commissioned by the Southern Guild gallery; Sacha Specker's "Pointy Water" photograph is one of Jasper's treasures; the delicate driftwood rose sculpture Jasper made for his wife when they were still dating; Sealand Gear's flagship store is located in the Dock Road Building in De Waterkant, Cape Town; all of Sealand's urban adventure gear is made from upcycled and recycled waste materials.



### MY MOST TREASURED POSSESSIONS

## SOUTHERN GUILD-COMMISSIONED SOUL ARCH COFFEE

**TABLE** In 2014, I was commissioned to create an ocean-, waveand surfboard-inspired coffee table. It's my most considered piece of art/design. I created a four-part fibreglass mound with reinforced fibre cement. The best part of the design is a hidden detail: machined 12mm marine-grade aluminium that allows the cantilevered laminated-hardwood-surfboard table surface to float seamlessly on the wave-inspired cement base.

- **SELF-PORTRAIT BY ATANG TSHIKARE** It reminds me of the time we worked together.
- SACHA SPECKER PHOTOS I love his images of the ocean.
- **DRIFTWOOD SCULPTURE** My most precious and delicate creation is a sculpture I made for my wife while we were dating and travelling the world. It's a rose made from perfectly shaped pieces of driftwood collected along the Mexican coastline.

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Two internationally recognised creatives born in PORT ELIZABETH who now call Jozi home reflect on how their childhood influences led them to pursue a career in the arts



A S A CHILD GROWING UP IN PORT Elizabeth, curator Kefiloe Siwisa wanted to be many things: an artist, a marine biologist, an entomologist, an earth activist ("Essentially an environmentalist, although I didn't know the term for it then"), a fashion designer,

a florist (but only working with plants that are categorised as weeds)... "The list is endless," she says.

In the end, Kefiloe graduated with a degree in art history and visual culture from the University of Cape Town, and studied a Master of Fine Arts degree in curating from Goldsmiths University

**EARLIEST ART MEMORY** My parents fostered creativity in the way they raised us, the way they loved us, the home they made for us. This is where my appreciation and understanding of art as a lived experience comes from. For me, art has always been a way of seeing, thinking and breathing; a road towards understanding and a source of nourishment. There is an image of me at almost a year old, sitting in a brown cardboard box that, according to my parents, was my happy place. When I look back on this image, I understand it is one of the many ways in which my creative spirit was cultivated.

WHAT BEING A "CULTURAL PRODUCER" ENTAILS I chose to describe myself in this way because I'm still unfolding, and it carries a sense of ambiguity and fluidity that allows me to resist being categorised. I'd say I'm like water: I can take on different forms, but at the core I am myself. As Alice Walker says in her poem *When You See Water*, "Water is always only itself and does not belong to any of these containers, though it creates them." of London. Since then, working for galleries, various organisations and alternative platforms has taken her around the globe, and she spent a year in London as an assistant curator of the 1-54 Contemporary African Art Fair's public programme.

Kefiloe is now the deputy director and curator of the RMB Turbine Art Fair, and her own art has taken on a research methodology: whether she's taking photographs or making videos, or painting or doodling on her walls and floor, it all serves as a means of working through ideas that feed her curatorial process.

**EMERGING LOCAL TALENT TO LOOK OUT FOR** There are many local artists that I am in awe of. I encourage people to look beyond traditional art spaces. I'm interested in connecting with artists who practise on the so-called margins and are overlooked, for example those in my home city of Port Elizabeth.

**THE LAST PIECE OF ART I ACQUIRED** I was gifted an incredible piece by Jo'burg artist Zenande Mketeni, whose work was featured as part of the Graduate Exhibition at the RMB Turbine Art Fair.

**AN ARTWORK I COVET** There are many pieces of art I'd love to own. More than that, my desire is to learn from the makers. Objects bring joy; they also hold stories and knowledge. I wish I could have access to all those stories and knowledge, so I could share it with future generations of makers, dreamers and innovators.

**AN OVERVIEW OF THIS YEAR'S RMB TURBINE ART FAIR** For four days, the Fair became like a living organism, brought to life by interdisciplinary practices and a diverse group of people.



Above The 2019 RMB Turbine Art Fair, of which Kefiloe (**right**) is the deputy director and curator. **Below** Lady Skollie, Ma Helen Sebidi and Kefiloe talk resilience during the RMB Turbine Art Fair.



## There were so many highlights, but two moments really stood out for me. The first one was on opening night: the venue was charged with people moving like electricity through the space, but Gregory Maqoma managed to clear a pathway in the middle of the atrium among all the madness to perform an excerpt from his movement work *Exit/Exist*. It was so grounding. For those few minutes it felt as though we all took a collective breath and celebrated our humanness.

Another highlight was facilitating a discussion between Ma Helen Sebidi and Lady Skollie. It concluded with Ma Sebidi reiterating the need for compassion, love and resilience. These lessons are seemingly simple yet so easily forgotten.

**MY GOALS AND ASPIRATIONS** My goals are multilayered and always evolving, but if I had to articulate what my future might look like, it would take the form of a sustainable, holistic art school, where intergenerational practitioners can come to create, learn, share, produce and archive knowledge, and give back to the land and themselves – a space that prioritises both intellect and intuition.

## **KEFILOE'S ADVICE** FOR ASPIRING CURATORS

- There are many paths to becoming a "curator", paths that may seem unclear, difficult at times and different from anyone else's. But if you move along them with grace and a soft radicalism, you're bound to craft something meaningful.
- Being present within yourself and each moment will make you a more mindful and empathetic facilitator. This, for me, is a daily practice, because the word "curator" (which implies stewardship and taking care) is an invitation to embody these values.
- Be willing to learn constantly, connect consciously, and transform wildly and playfully. There is no shame in questioning and there is freedom and privilege in exploring the unknown.
- Your root (indigenous) language is your superpower. No matter which way you are twisted, bent and misshaped, your innate form of expression will always be your greatest contribution.

## THE DESIGNER: LADUMA NGXOKOLO

ADUMA NGXOKOLO HAS PUT THE ault in culture, with his now-iconic beadwork-inspired knitwear garnering high praise – and high-profile fans – both locally and internationally. Through his label Maxhosa Africa, he pays homage to his Xhosa heritage in an authentic yet contemporary way, while simultaneously inspiring

other designers to tell their stories. His legacy extends beyond incorporating cultural narratives and traditional craft in design: Laduma has been a pioneer in changing the perception of African luxury brands. What began as a knitwear collection for his final-year project at Nelson Mandela University has grown into accessories and, most recently, an expanding homeware range.

"I was exposed to art from a young age; and I studied art in high school as well," he says. "But when I designed my first sweater, it became even more evident that design was in my future. Making something from my imagination that the world responded to seemed to prove it..."

"ONCE YOU STUDY AND ANALYSE A CULTURE, YOU CAN CHOOSE AN ASPECT AND TRANSLATE IT INTO DESIGN"

**EARLIEST DESIGN MEMORY** When I was a pre-teen, our mother would take us to museums and read to us from anthropological books at bedtime. The design mindset was etched from a very early age.

**MEMORABLE COLLABS** A fun project this year was the launch of beaded cellphone covers in collaboration with Vukile Batyi. But one of the most memorable collabs of my career so far has been the tapestry I created with (artist) Nelson Makamo. The concept was so well executed, and it sparked a great idea for generations to come.

THE BENEFITS OF BEING THE FEATURE DESIGNER AT 100% DESIGN SOUTH AFRICA (7-11 AUGUST, GALLAGHER CONVENTION CENTRE) The platform provided us with the space to challenge ourselves, by fully venturing into homeware and showing that we're an evolving lifestyle brand. The range now includes soft furnishing (standard and oversized cushions), and we're also venturing into the interior-décor space with curtaining and rugs.

**MY CREATIVE PROCESS** I work with my team throughout the conceptualisation and execution stages. It all starts with an idea, which I archive so I can discuss it with the team and get everyone's input. Depending on the brief, I usually sketch the designs and share them with the programmer, who then inputs the designs into our knitting machines. Our production manager ensures that we have adequate raw materials and a sufficient workforce to execute the designs. It is important for us to be passionate about what we are creating – passionate about what we do.

### INTERPRETING CULTURE IN AN AUTHENTIC, ICONIC WAY

To be honest, being Xhosa has helped a lot in my creative journey. I have always been fascinated by culture, and how it can be interpreted in a multitude of ways; and I have used my own experiences in addition to studying the anthropology of my culture. Once you study and analyse a culture, you can choose an aspect and translate it into design – but it is very important to respect the culture from which you are sourcing inspiration. Because the brand has grown, we are now drawing on cultures from across the continent and the world.

**WHAT INSPIRES ME** I am inspired by people, by examining the world during my travels, and by the different energies I encounter. It helps to push the creative process forward.

**HOW I UNWIND** Music is one way I escape. I listen to a lot of music – when I'm heading to work, while I'm working, when I'm trying to relax. I also travel as a form of self-care. It helps to get out of the city and see how other people are expressing themselves.



# PRINTING THE FUTURE

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From starting and selling a successful robotics company to creating Africa's first 3D-printing farm, RYAN BEECH is on the frontline of the fourth industrial revolution

WORDS LINDSEY SCHUTTERS

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### R EMEMBER WHEN 3D PRINTERS WERE a thing, and the dream was for every house to have its own desktop manufacturing hub – to print toys

or replacement plastic parts on demand? That turned out to be a hype cycle with very little pay-off. Yet hobbyists are still out there on the trend treadmill, tinkering away at the next great tech breakthrough that's a DIY version of something already coming down the corporate production pipeline.

Ryan Beech was no hobbyist. He was the driving force behind trying to get the Johannesburg suburb of Parkhurst completely off the grid. His company, Ryonic Robotics, was fast becoming a global force in dangerous and confined space inspections. He was essentially the closest we came to having a home-grown Tony Stark. He isn't dead – he's evolved. He sold the robotics company and moved out of Parkhurst, and these days, he's trying harder than ever not to let his work impact his personal life. Oh, and he is upending the manufacturing industry.

"I've started another company – basically, Africa's first 3D-printing farm," says Ryan in the characteristically nonchalant manner of a man building on years of entrepreneurial the app itself – and Ryan plans to launch a community forum for people to upload designs to.

"The desktop machines used by hobbyists can sometimes take two days to print a part – that's not really viable. These (HP) machines print very quickly and can use many different materials," he explains. "This is industrial-level technology that delivers high-quality parts. Eventually, we want to partner with all major appliance manufacturers, and remove some of the need for warehousing or for ordering parts from international suppliers."

He is bullish about the future success of industrial-level additive manufacturing, saying he has it on good authority that 3D printing will be cost-competitive with injection moulding in as little as three years. His confidence is so high that the metal printer is already on order and should arrive early in the fourth quarter of this year. It's millions of rand in investment money for a radical reimagining of how the world works.

Market analysis done by Reuters predicts growth in the global plastic injection moulding industry to be to the tune of about a billion dollars by 2024. The magic production output number Ryan says his 3D printers need to achieve to go toeto-toe with that business is 50 000 parts per month within the

"WE'LL BE TAKING 3D PRINTING TO THE MASSES, BUT MAKING IT AS SIMPLE AS USING UBER OR AIRBNB"

success. He is speaking after president Cyril Ramaphosa held a fourth industrial revolution powwow to update his Cabinet on the future challenges facing our economy.

"We're also Africa's first manufacturing-as-a-service platform, and the first company on the continent to roll out HP Multi Jet Fusion 3D printers in our print farm," he says. "We'll be taking 3D printing to the masses, but making it as simple as using Uber or Airbnb."

This is what Industry 4.0 is all about. The future Ryan envisions is one in which, when a switch on your stove breaks, it can be ordered from Quantron, instead of the stove manufacturer holding hundreds of switches for its many

different product lines in stock in a warehouse. A fully automated app experience allows you to upload the design directly and receive an immediate quotation, which can be put into production upon payment. Your switch arrives by courier the very next day. A cloud-based computer-aided-design functionality is built into the service, so you can even sketch what you need in



same five-year period. His approach, however, is to set his product apart through innovation. "We've hired a post-PhD fellow materials scientist from Stanford to head up our materials-science division, which will make us the first company in Africa to locally develop its own printing material," he says. "The focus will be on making environmentally friendly plastics and resins."

In the end, Ryan is an experienced mechatronics engineer who has a passion for additive manufacturing as a way of reducing waste and emissions. He is also a committed father who wants to create a sustainable future for his children. Ryonic Robotics was on a crusade to send robots into

> dangerous environments, rather than humans. The Parkhurst project was supposed to create a working example of a functioning zero-emissions/zerocrime neighbourhood in South Africa. This new venture is seemingly targeted at saving time and money, while simultaneously nudging our country to the forefront of the fourth industrial revolution.