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Electric thrill

China beats all comers at Nurburgring with ultra-fast Nio EP9 EV

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Editorial
GoAuto Newsroom
PO Box 18
Sandringham
VIC 3191
(03) 9598 6477
goautomag@goautomedia.net

Publisher
John Mellor

Production
William Vicente

Contributors
Tim Nicholson
Ron Hammerton
Terry Martin
Tung Nguyen
Robbie Wallis
Byron Mathioudakis

Advertising enquiries
Sally Mellor
(03) 9598 6477
0425 700 904
sally@goautomedia.net

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E-tron legacy

Audi charges at Tesla Model X with E-tron Sportback concept



By TIM NICHOLSON

AUDI'S push into electrified vehicles has been a given a boost with the reveal of the zero emissions e-tron Sportback that will become the premium brand's second all-electric production model

when it goes on sale globally in 2019.

Revealed ahead of last month's Shanghai motor show, the swoopy crossover-coupe concept follows the e-tron Quattro SUV concept that was uncovered in 2015 at the Frankfurt show.

Audi Australia general manager of corporate communications Anna Burgdorf told GoAuto that the company was "keen to gauge customer interest" in a production version of the E-tron Sportback, adding that it could get the green light for the Australian market.

"If there is demand for this concept once it reaches production, then it's certainly likely we would bring this car to the Australian market," she said.

"The technology concept and the innovation displayed ... are a great demonstration of



our core brand philosophy, Vorsprung durch Technik, and therefore we'd be keen to see this car introduced here. Provided the production version meets ADR (Australian Design Rules) and customers are keen to buy and drive the vehicle, then we'd be keen to offer it to our customer base."

Ms Burgdorf also refused to rule out the inclusion of the production version of the E-tron Quattro EV SUV for the Australian market.

"As long as there's demand in the market, and the package we can offer is the right one for Australian luxury car buyers, we certainly

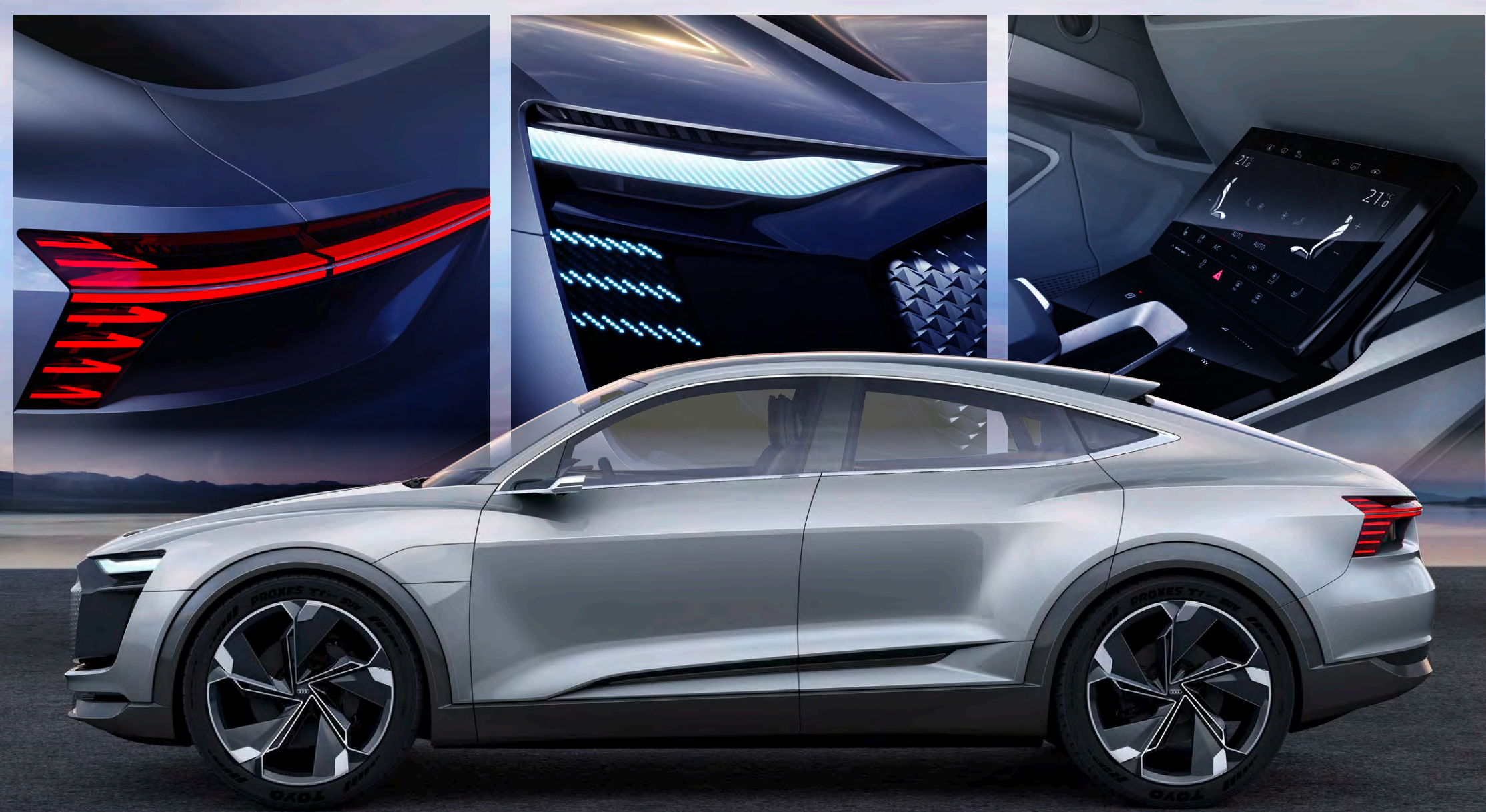
support alternative drivetrain technologies and innovative new models."

That high-riding EV wagon has already been confirmed for production in 2018, and Audi AG chairman Rupert Stadler has announced that the Sportback will not be far behind.

"Our Audi E-tron will be starting out in

2018 – the first electric car in its competitive field that is fit for everyday use," he said. "With a range of over 500 kilometres and the special electric driving experience, we will make this sporty SUV the must-have product of the next decade.

"Following close on its heels, in 2019,



comes the production version of the Audi E-tron Sportback – an emotional coupe version that is thrillingly identifiable as an electric car at the very first glance.”

The dimensions of the E-tron Sportback – 4900mm long, 1980mm wide and 2930mm wheelbase – put it right in the cross hairs of

BMW’s large X6 coupe-SUV and Mercedes-Benz’s GLE Coupe and not far off its own Q7 seven-seater.

However its 1530mm height means it sits much lower than its rivals from Munich and Stuttgart, suggesting Audi is going for a more dynamic and sporty design – more coupe

than SUV.

Audi has described the striking low-slung four-door concept as a “design study and technology demonstrator,” and while it is set to morph into a production model, it has a number of features that highlight its concept status.

Along with its LED head and tail-lights,

the E-tron Sportback concept features new lighting technology made up of about 250 LEDs surrounding the Singleframe grille and below the daytime running lights that “literally make their mark on the road ahead”, according to Audi.

The company says the lights, combined with

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a micro-mirror-studded surface and complex control technology makes for several light signatures and options for creating graphics or communicative signs when stationary or moving.

Bulging wheel arches house massive 23-inch wheels and highlight the Quattro all-wheel-drive architecture, while tiny cameras replace the exterior mirrors on the concept.

Inside, Audi has used large touch-sensitive screens below the huge central display, as well as in the door trims and the front passenger side of the dash, reducing the number of buttons.

The drivetrain mimics that of the E-tron Quattro concept, and it uses the same configuration that will be adopted on future

production electric Audis – it includes one electric motor on the front axle and two on the rear powering all four wheels.

Overall power for the system is 320kW – lifting to 370kW in boost mode – ensuring a 0-100km/h dash time of a sportscar-like 4.5 seconds, which is 0.1s quicker than the E-Tron Quattro concept. The liquid-cooled lithium-ion battery is located under the passenger compartment between the axles, which Audi says ensures a lower centre of gravity and a balanced axle load distribution of 52:48 front/rear.

The 95kWh battery ensures a driving range in excess of 500km, according to Audi, and it can be recharged by the Combined Charging System with dual connections for AC and DC. **MM**

A touch of Class

Concept A Sedan gives a taste of next-gen Mercedes-Benz A-Class



By ROBBIE WALLIS

MERCEDES-BENZ has used the Shanghai motor show to preview the design direction of its next-generation family of compact models, showing a sleeker and more futuristic look with the reveal of the Concept A Sedan.

According to Mercedes-Benz Australia Pacific senior manager public relations,

product and corporate communications David McCarthy, the design of the Concept A Sedan will likely make its way onto a production model towards the end of next year.

He also confirmed that the sedan body style of the concept would come to Australia, although he was unable to confirm whether it will be sold as a new model or as a variant of an existing model.

Measuring 4570mm long, the Concept A Sedan sits between the B-Class and CLA in terms of length, but is taller and wider than the CLA.

The new sedan is likely to appeal to buyers looking in the compact segment for a more traditional small sedan, with the swoopy CLA four-door coupe appealing to people looking for a sportier looking alternative.

The concept eschews the round, bulbous headlight design of the A-Class for a narrow, sloping design replete with a typically Mercedes long, thin strip along the top of the light, and an intricate grid structure inside the headlights that has been coated with UV paint.

When exposed to different forms of light, the headlights can glow in different colours.

The rest of the front fascia borrows a

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number of design elements from Mercedes-AMG's halo GT supercar family, including the Panamerica grille which was until recently preserved for the GT, and the single, lower air intake with muscular side vents.

The distinctive grille has since been added to the upcoming GLC63 SUV, but the new sedan would be the first non-AMG model to wear the look if the design makes it into production.

It also bears a resemblance to the GT4 concept revealed at the Geneva motor show, with a similar diffuser, lined bonnet and red colour.

At the rear, the tail-light design is an evolution of the CLA's lights but with a more triangular, boxy design that stretches all the way into the license plate nook.

Other features include the concept's 20-inch alloy wheels, panoramic sunroof and rear diffuser, as well as smoother lines in

accordance with Mercedes' 'Sensual Purity' design language.

Mercedes-Benz has not revealed what powertrain the Concept A Sedan uses.

When it arrives in Australia the A-Class-based sedan will go head to head with the likes of the Audi A3 sedan, and could potentially be offered in an AMG-fettled version that packs a 280kW/475Nm 2.0-litre turbocharged four cylinder that would take the fight to Audi's RS3 sedan, which arrives locally mid-year.

Daimler AG chief design officer Gorden Wagener said the Concept A Sedan heralded a new design direction for Mercedes-Benz.

"Our Concept A Sedan shows, that the time of creases is over," he said. "With its perfect proportions and a sensual treatment of surfaces with reduced lines, it is the next milestone of Sensual Purity and has the potential to introduce a new design era." **MM**

5 for fighting

Tarmac-tearing BMW M5 to pump out more than 450kW/700Nm



By RON HAMMERTON

BMW'S first pure-bred all-wheel-drive M car, the sixth-generation M5, appears set to pip its German rivals in the power department when it goes into production as BMW's most powerful production car in November.

Due to be shown at the Frankfurt motor show in September and launched in Australia in March or April next year, the bahn-burning large sedan will get "450kW-plus" power and "over 700Nm" from the revised 4.4-litre twin-turbo V8 that generated 423kW and 700Nm in the superseded model.

European reports suggest the true M5 power will be 458kW, shading the upcoming Mercedes-AMG E63 S (450kW) and Audi RS6 Avant Performance (445kW) and pipping the 448kW V12 M760iL as Beemer's most powerful beast.

However, it remains to be seen if the M5 can out-muscle the Benz and Audi rivals in torque,

as the E63 S 4Matic – launched in Australia this week – generates a class-leading 850Nm, while the Audi delivers 750Nm, despite both having smaller 4.0-litre capacity engines.

As GoAuto reported from the Australian unveiling of the standard 5-Series last October, the new M5 will become the first of its breed



to dispense with rear-wheel-drive in favour of xDrive AWD technology.

The move has been forced by the increase in power that BMW M engineers feared would be too much for rear wheels alone.

The powertrain engineers also have dispensed with the previous seven-speed dual-clutch gearbox for the same reason, installing a stronger conventional ZF-sourced eight-speed torque converter automatic transmission in its place to handle the extra grunt.

BMW claims the new Steptronic transmission with its manual mode can make faster gear shifts anyway, helping the new M5 to achieve the zero to 100km/h sprint in “under 3.5 seconds”, about one second faster than before, putting it in supercar territory.

That sprint time is also aided by a lighter kerb weight than before, despite the penalty of AWD running gear. This weight loss is mainly achieved by the addition of a carbon-fibre roof.

In adopting AWD traction for the latest model, BMW joins both Mercedes and Audi in going for all-four drive to tame the flame while also gaining acceleration.

The good news for M5 owners who loved their rear-drive layout is that the M5 powertrain is not only biased to the rear wheels, but they can have their cake and eat it too by being able to select a RWD mode that channels all power to the rear wheels.

xDrive modes include conventional 4WD with a neutral set up, and then, with electronic stability control turned off, a slightly racier 4WD Sport mode that channels more torque to the rear, and then 2WD which could be described as track drift mode.

As well, the driver can engage the so-called M Dynamic Mode with 4WD Sport, allowing greater wheel slip that BMW says is “telegraphed in good time, while the linear

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increase of sideslip angle makes it easily controllable”.

Part of that controllability is attributed to an improved active differential that controls torque split on the rear axle, pointing up to 100 per cent of torque to either wheel when needed.

BMW M chairman Frank van Meel said the core component of M xDrive was M-specific software that integrated longitudinal and lateral dynamics.

“The new drivetrain technology – making its debut on the new BMW M5 – therefore combines all of the agility and precision of standard rear-wheel drive with the supreme poise and traction of the all-wheel-drive system,” he said.

“As a result, the new BMW M5 can be piloted

with the familiar blend of sportiness and unerring accuracy on both the race track and the open road – and in various weather conditions, too.”

Like the previous model, the new M5 has two configurable M Drive modes – M1 and M2 – that the driver can set up and have available at the press of a button.

As well, the driver settings include comfort, sport and sport individual options for suspension, steering and throttle response sharpness.

Pricing and Australian specification details will be released closer to launch. The previous M5 was priced at \$230,615, while the most expensive current model in the all-new 5 Series range is the 540i, at \$136,900 plus on-road costs. **MM**



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Ballistic 1000kW Nio EP9 EV destroys zero to 200km/h in 7.1 seconds



By TUNG NGUYEN

CHINESE electric vehicle-maker Nio's EP9 has claimed the fastest production car lap record at Germany's Nurburgring circuit with a blistering time of 6:45.9, which is 6.11 seconds faster than the previous record-holding Lamborghini Huracan LP640-4 Performante.

The landmark lap time is also 19.22s faster than the EP9's previous record attempt in 2016 and places Nio clearly in front of its combustion engine rivals including the Nissan GT-R Nismo, Mercedes-AMG GT R, Porsche 911 GT3, Lexus LFA, Ferrari 488 GTB and Chevrolet Corvette.

Nio performance program head and team

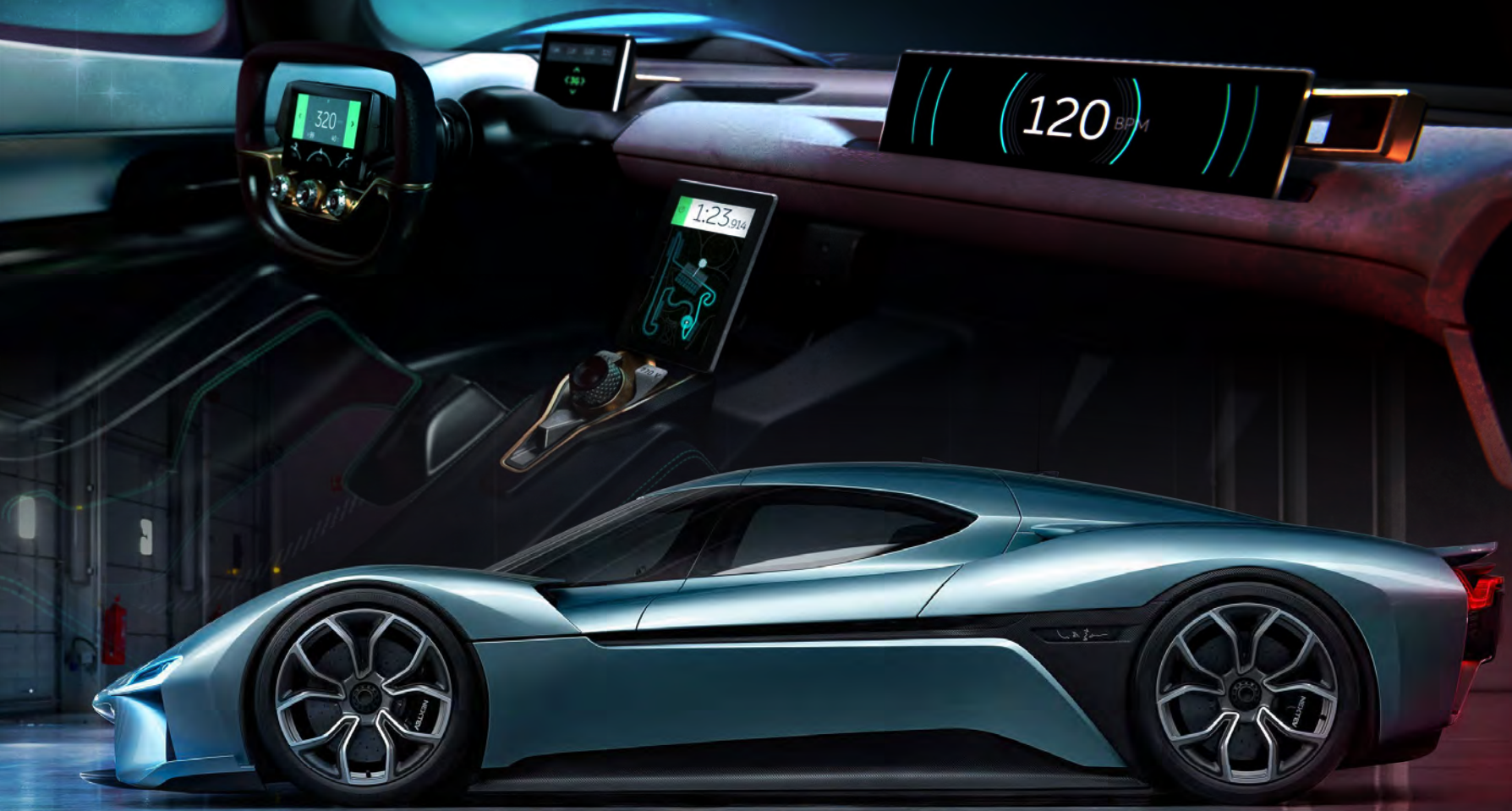
principal Gerry Hughes called the record lap a "fabulous achievement for Nio" and congratulated the team – including driver Peter Dumbreck – for their efforts.

Underpinning the EP9's scorching pace are four electric motors mated to four transmission systems – a pair for each of the wheels – generating a combined total output

of 1000kW.

The all-wheel-drive hypercar is constructed exclusively with carbon-fibre to save weight – including throughout the chassis and all the bodywork – to top the scales at 1735kg, 635kgs of which belong to the battery system.

According to Nio, "with an interchangeable battery system, the EP9 is designed to be



charged in 45 minutes and has a range of 265 miles (426 kilometres)".

Nio claims the EP9 can accelerate from zero to 100km/h in 2.7 seconds and hit 200km/h from a standstill in 7.1s, meaning that in the time it takes a Toyota 86, Subaru BRZ and Mazda MX-5 to hit the landmark triple digits, the Chinese EV will be doing twice the speed.

While not the fastest accelerating EV on the market, the title still belongs to Tesla's Model S P100D super sedan with a 0-100km/h time of around 2.5 seconds with Ludacris mode and an over-the-air update, the EP9 is still able to out-muscle almost all of the established supercar players.

Top speed is clocked at 313km/h, while the aggressive body styling – including a massive rear wing, low slung side skirts, prominent rear diffuser and wide front splitter – can generate 24,000 newtons of downforce at 240km/h, enough for three lateral Gs of force.

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Six EP9s have been produced so far for company investors, but Nio has just announced an additional 10 will be manufactured and sold to the public for \$US1.48 million (\$A1.99 million) each.

Last month the Chinese brand also revealed its Tesla Model X-rivalling ES8 all-electric SUV at the Shanghai motor show, while in March Nio it announced the EVE autonomous vehicle concept.

In February, 2017, Nio also nabbed the world record for the fastest autonomous car in the world as its EP9 lapped the Circuit of the Americas (COTA) in Austin, Texas with a

time of 2:40.33 and hit a top speed of 257km/h without a driver.

Nio CEO Padmasree Warrior said snatching world records in the EP9 is no accident, adding that the brand wants to declare its intentions as a serious automotive contender.

“Setting and breaking records with our EP9 is for the sole purpose to show the world that we have the automotive and technical expertise to succeed in the global automotive market,” he said.

“Our vision is to be the best of the next generation of car companies by producing the smartest vehicles in the world.” **MM**