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# 2018 Automotive Review



### Rolls-Royce 103EX Continues to Set the Agenda for the Future of Luxury Mobility

wo years ago in 2016, Rolls-Royce rewrote the rulebook for the future of true luxury mobility by presenting the Rolls-Royce VISION NEXT 100 – codenamed 103EX – a radical vision of effortless, autonomous, connected, spacious and beautiful luxury mobility, as personal as each individual customer.

"When we revealed 103EX to the world in 2016, Rolls-Royce set the agenda for the future of luxury mobility. Since then it has become clear that other car brands have acknowledged our vision, so much so that they have adopted most

aspects, apart from the most visionary and radical," commented Torsten Müller-Ötvös, Chief Executive Officer, Rolls-Royce Motor Cars. "Rolls-Royce's vision in 2016 was, and remains, all-electric, completely autonomous, completely Bespoke mobility – coupled with ultimate luxury."

Thanks to its unrivalled engineering capabilities, the customer's Personal Vision will dictate how their Rolls-Royce will look. This is an uncompromised view of the future of luxury mobility that also embraces the luxury customer's wish for the Effortless Journey –autonomous travel in a completely connected, fully autonomous vehicle.

The chassis of the future, created from the most advanced materials and powered by a zero emissions powertrain will underpin this vision. Advanced manufacturing technologies

will enable customers to involve themselves even more in the design of the shape, size and silhouette of their personal Rolls-Royce vision, which Rolls-Royce would then manufacture to the customer's specifications, making every Rolls-Royce a unique Bespoke masterpiece.

103EX itself, presented a vision to the world that acknowledges the fact that Rolls-Royces will continue to be the preferred marque of the most discerning, wealthy and powerful patrons in the world because of their preference for the presence and per-

sonal statement that only a Rolls-Royce can offer. The Grand Arrival required by those people who make the world turn – whether royalty, heads of state or global superstars – is guaranteed by the visionary design of the Rolls-Royce 103EX.

This truth was reflected in the most dramatic aspect of the Rolls-Royce 103EX – the clamshell canopy and coach door. These stylish features allow the occupants to stand up from the best seat in the house, and descend from the futuristic lounge atmosphere of the cabin of 103EX clad in the finest silk, wool and wood.

"Rolls-Royce rejected the notion of mass-produced, carbon-copy modes of mobility two years ago with the launch of 103EX because of our intimate understanding of our customers' thinking and their demands in the future," concluded Giles Taylor, Design Director of Rolls-Royce.





### Porsche's Look into the Future

PORSCHE's surprise unveiling of the Mission E Cross Turismo at the Geneva International Motor Show generated huge interest from the international media. Whether or not the study will go into production remains undecided. Here's a brief overview.

In addition to the 911 GT3 RS, Porsche presented the concept study of an electrically

powered Cross Utility Vehicle (CUV) at the Geneva International Motor Show. The four-door Mission E Cross Turismo is characterized by its emotional design

language and striking off-road elements as well as the new display and operating concept with touch screen and gaze control.



Porsche chief designer Michael Mauer already revealed at the presentation in Geneva that he would like to turn the study into a series production

model: "It goes without saying that I would like to see that happen with this vehicle: our team has put its heart and soul into the Cross Turismo over the last two years. Perhaps that means I'm not very objective. What is important now is for us to see how the public responds to the vehicle and then we can draw the right conclusions."

An initial survey on Twitter shows that the majority of the public agrees with him. Of nearly 13,000 participants, 74 per cent voted for the Cross Turismo to go into production.





## A New Addition to the Family: New Mercedes-AMG GT 4-Door Coupe

ORE space, more power, more goosebumps - the new Mercedes-AMG GT 4-Door Coupe delivers driving experiences in new dimensions and extends the AMG model family. The new Coupe is the first four-door sports car from Affalterbach and draws directly on the legendary SLS and AMG GT models of success. As another vehicle developed autonomously by Mercedes-AMG, it combines unique design, high comfort and outstanding sports car engineering with an athletic, four-door fastback layout. This means that it offers more space and even greater versatility. It thus offers more space and more potential uses. The systematic expansion of the AMG GT family with the 4-Door Coupe opens up the sports car segment to those looking for a vehicle for day-to-day use, but who are unwilling to go without the unparalleled performance of Mercedes-AMG.

Longitudinal and lateral dynamics at the highest level and a striking silhouette with clas-



sical proportions immediately put the Mercedes-AMG GT 4-Door Coupe in the portfolio of

its two-door brother at first glance. The expressive design with a low hood, dominant front and muscular body language emphasizes the sporty genes of the four-door coupe, which sets new standards as the latest model in the AMG family. The new AMG GT 4-Door Coupe combines high everyday comfort with diverse individualization options and the latest sports car engineering.

"The new AMG GT 4-Door Coupe blends the impressive racetrack dynamism of our twodoor sports car with maximum suitability for everyday use. It has a unique way of embodying our brand core, 'Driving Performance' and with its systematic configuration it will attract new customers for Mercedes-AMG," commented Tobias Moers, CEO of Mercedes-AMG GmbH.

The new AMG GT 4-Door Coupe delivers special driving experiences on all levels, and with a top speed of up to 195 mph it ensures superior performance in any situation. Powerful, up-to-date in-line 6-cylinder and V8 engines with outputs ranging from 429 hp to 630 hp allow completely new driving experiences and combine impressive performance with modern efficiency.

The interior of the first four-door AMG GT model is characterized by elegant coolness and also by ultra-modern features: innovative controls can be intuitively operated and configured as required. The blend of high individualization and sports car technology, placing yet more focus on the requirements of discerning customers, is also clear from the wealth of equipment packages and individual options. Moreover, the latest addition to the family from Affalterbach also lives up to the Mercedes-AMG brand pledge with regard to its high driving dynamics and sets the benchmark in its segment on the racetrack too.

### CLEAR AT FIRST SIGHT: AMG GT FAMILY MEMBERSHIP

Clearly recognizable as a member of the AMG GT family, the new AMG GT 4-Door Coupe follows the design philosophy of Sensual Purity. It takes the striking proportions with convex surfaces and a muscular body and develops them to exciting effect for a four-door variant of an AMG GT Coupe.

The front view with a long hood and two powerdomes leaves no doubt that this is the most recent addition to the AMG GT family. The AMG 4-Door Coupe follows the design



tradition of the successful AMG GT models: the powerful body exudes sportiness and motivation. Sensuous shapes with convex surfaces lend the four-door GT a timeless elegance, while a flowing silhouette with lowered greenhouse points to its sporting credentials. As in the AMG GT R, radiator shutters, known as the Airpanel, in front of the center cooling air inlet improves the car's aerodynamic efficiency. Slim MULTIBEAM LED headlamps, AMG-specific grille, "Shark Nose" and front bumper with its enhanced Jet Wing (with a flowing A-Wing on the six-cylinder model) also lend the most recent model from Affalterbach the hallmark presence of the AMG GT family.

Frameless side windows and a windscreen inclined far to the rear, features of the classic coupe architecture, are also cited. Even with the additional seats in the rear, the characteristic lines of the AMG GT models are not compromised. The tailored upper contours and broad shoulders point to the athletic, sporty orientation of the car, which is additionally emphasized by very pronounced rear wheel arches.

The rear view of the new AMG 4-Door Coupe picks up on familiar features of the AMG GT design idiom: extremely slim LED taillamps define the hallmark trunk line, the rear spoiler, extendable in several stages, not only underscores the family affiliation; it is also an important element of the active aerodynamics.

The two eight-cylinder models can be identified by the three horizontal louvers in the side front air intakes, the Jet Wing with its trim element finished in Silver Shadow paint, the distinctive diffuser on the tail end and the dual exhaust system with trapezoidal tailpipe trims. The six-cylinder variant, meanwhile, has one louver in each of the air inlet grilles, round twin tailpipe trims and a less pronounced rear diffuser.

"The new AMG GT 4-Door Coupe is the ultimate four-door sports car and the ideal ambassador for Performance Luxury," said Gorden Wagener, Chief Design Officer, Daimler AG. "It embodies a symbiosis of emotion and intelligence with breathtaking proportions and a puristic, surface-oriented design with sensuous shapes. It is both hot and cool at the same time."

2018 AUTOMOTIVE REVIEW

### Serenity Through Technology: The Pioneering Bentley Bentayga Hybrid

ENTLEY is today announcing full details of the world's first luxury hybrid model. The Bentayga Hybrid represents Bentley's first step towards full electrification, combining the serenity of silent motoring with exquisite comfort and effortless performance.

Offering the best of both worlds, the new plug-in hybrid model combines an advanced electric motor with a powerful and efficient new-generation V6 petrol engine. The hybrid version of the world's most luxurious SUV will be the company's most efficient model ever with CO2 emissions of 75 g/km (NEDC).

The Bentayga Hybrid feels and rides like a true Bentley, providing the refinement, effortless performance and exquisitely tranquil cabin environment for which the luxury British brand is

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famed. It represents the future of luxury mobility; an oasis of calm and tranquillity in the city and beyond.

Adrian Hallmark, new Chairman and Chief Executive

Officer of Bentley Motors, said, "The Bentayga Hybrid is our first step on the road to electrification, combining traditional Bentley values with the very latest technologies. It gives customers the best of both worlds – engaging, effortless performance on the open road and silent, emission-free driving in the city, which will become increasingly important with the ever-changing regulations around the world.

"Following Bentley tradition, the Bentayga

Hybrid pioneers a new automotive sector – the luxury hybrid – and sets Bentley on the path towards a sustainable electrified future.

Bentayga Hybrid is not yet available to order. It will become available to order in selected markets from the second half of 2018.

#### INTELLIGENT, EXPERIENCE-**ENHANCING TECHNOLOGY**

At the heart of the Bentayga Hybrid are two power sources – a highly efficient electric motor and a new turbocharged 3.0-litre V6 petrol engine. The E Motor acts as both an electric motor and a generator to offer a seamless driving experience and guaranteeing maximum electric-only range.

The Hybrid adds a new dimension to the existing range of luxury Bentayga models. It features

all the flexibility associated with the W12, V8 Diesel and V8 derivatives, with the same sure-footed permanent four-wheel drive and four on-road modes - Sport, Bentley, Comfort and Custom.

The Automatic Start-Stop switch is replaced with a control for the three E Modes - EV Drive, Hybrid Mode and Hold Mode. These will enable the driver to manage battery usage during a journey.

The Bentayga Hybrid requires new and different information to be relayed to the driver. As a result, a revised infotainment screen and Driver's Information Panel with E Motion information have been designed to provide details on perfor-



mance, consumption and energy source.

The traditional tachometer that displays engine speed is replaced with a dial showing when the car is operating in pure EV Drive, or engine speed if the combustion engine is operating. A battery status dial replaces the coolant temperature gauge.

The infotainment screen can display energy flow in each of the three E Modes, showing whether the vehicle is being powered by energy supplied by the battery, or the combustion engine.

To maximize efficiency, the vehicle uses satellite navigation information to calculate the best usage of electric motor and engine for every journey. Inputting a destination into the navigation system will command the car to automatically engage the correct E Mode for each part of the journey, constantly calculating the most efficient use of battery charge and storing electrical energy for sections of the journey where it is most useful – such as when arriving in the city. The system will reduce on-board charge to zero just as the vehicle reaches its destination, maximising overall efficiency.

A number of Hybrid-specific functions will also be introduced to the latest Connected Car 'MyBentley3' services, including My Battery Charge, My Cabin Comfort, and My Car Status, operated via a smartphone app.



Avoiding litigation when it's possible. Protecting you when it isn't.

### Connected Car Growth Means Growth of Legal Concerns

examples include pay-for-use insurance sensors,

repair/maintenance management, autonomous

By BERT RASMUSSEN, CHRISTIAN SCALI AND MELANIE CLIFF

D ECENT headlines increasingly herald a new era in connected cars – from Avis/Budget's agreement to purchase 10,000 connected Toyota vehicles, to reports of wireless payment systems being integrated into vehicles for drive

wireless connection, con-

necting its user and the

outside world. For exam-

ple, Cadillacs equipped

with an early version of

OnStar Services, where

an airbag deployment

would activate a voice

cellular phone call with

OnStar's service center.

connected cars.

were some of the very first

Today, connectivity

often comes in the form

of a 4G data connection

directly from the car to

the Internet, and access

the car via a direct con-

nection to automotive

systems, as well as WiFi

hotspot capability to pro-

to that connection inside



**RASMUSSEN** 





driving data transmission and reception, and, of course, and in-car entertainment. Automobile manufacturers and other players

in this space such as Verizon, have recognized the market potential in connecting the car to the Internet, and in connecting devices to the car. Several of these companies offer devices that connect to the onboard diagnostics (OBD or ODB2) port on vehicles. The most basic of these devices are used to display vehicle diagnostics (the original purpose of the ports) to owners. Some OBD2 devices also offer GPS location services and safety scores or more detailed information on engine, brakes and other vehicle diagnostics. A few devices offer to store information about the car in a subscription-based cloud while others, like Verizon's HumX, combine the ODB2 connection one that has any form of

> For car dealerships and aftermarket telematics companies, connectivity offers new connected car solutions for consumer entertainment, vehicle safety, lot management, accurate vehicle data for service and maintenance marketing/ retention opportunities, and new F&I consumer product offerings for modern location tracking/ stolen vehicle recovery service. The future holds brand new marketing opportunities and business management solutions for the car business that enables a tech-savvy dealership to thrive.

with the device's own 4G network connection.

The rapid development of technology fuels a corresponding shift in the focus of the automotive industry, which can be seen in the tremendous recent growth in patent filings by manufacturers and other industry players for software and electronic devices. All of this comes at a time when pre-5G and 5G will soon provide a huge jump in bandwidth and reliability of cellular data communications. The concurrent development of the components of "connected car" technology points towards the inevitable increase in concern and public scrutiny on security and privacy benchmarks. The enormous amounts of personal and sensitive data posed by connected vehicles,

such as real time precise geolocation data and the contents of driver communications from mobile phone connections, make data collection issues impossible to ignore. Recent roundtable discussions held by the Federal Trade Commission invited public comments by industry representatives, consumer advocates, academics and government regulators to discuss issues related to connected vehicle and autonomous vehicle data collection, privacy and security practices of vehicle manufacturers, the role of different government agencies and self-regulatory standards. Federal and state regulatory effort to embrace technology that is in constant flux and invite public commentary marks the start of a long journey to provide legal benchmarks and safeguards.

As in any area of rapidly developing technology, car manufacturers and suppliers are competing to secure intellectual property rights, not only in hopes of securing a dominant position in existing markets, but to license the technology to others.

Another area of legal risk associated with connected cars is product liability. The issues here are complex and, given the sea of technologies and suppliers involved, will surely bring even more players into the fray than was previously the case.

Many of the legal issues will be novel. For example, with connectivity to the cloud comes the collection of data, but who owns the data? Will manufacturers seek to create agreements with vehicle owners to license or take ownership of some of the data, but not all? How can data protected by existing privacy law be segregated from data that is not?

What are the legal and regulatory implications of over-the-air repairs, where signals are sent to the connected car to improve or repair a software flaw, or even to correct a mechanical problem by sending a signal that will change operating parameters? Manufacturers are incentivized to download updates over-the-air, and not at the dealership. IHS Automotive projects that automakers will save \$35 billion from overthe-air updates in 2022, up from \$2.7 billion in

2015. Those savings would come from 10.9 million map updates, plus 42.5 million telematics updates, 34.4 million infotainment updates and 13.2 million updates to safety-critical control units. It can only be hoped that this upside does not detract from key safety, security, and consumer satisfaction issues. Many manufacturers and consultants believe over-the-air updates for vehicle operation and safety issues should be considered only for extraordinary situations and only after the utmost care is taken to ensure the update is protected against any possible compromise, including hacking, with such fixes only performed by a trained technician and proper diagnostic equipment and tools necessary to ensure the utmost safety and security.

Of all the looming societal and legal concerns over connected cars, none is more pressing than security – cyber security, to be precise. Most of the underlying architecture of even new vehicles was designed at a time when it was easy to assume the vehicle would never be connected to anything other than a technician's scanner. This includes not only the ODB2 port, but the hub used by the vehicle to connect all in-vehicle equipment (e.g., parking sensors, airbag, active safety system) and systems (infotainment), allowing them to communicate - the so-called Controller Area Network, or CAN. Therefore, before any systems are made accessible through connected car technology, it is essential that security against intentional and unintentional compromise be robust and verified as operational. The vehicle, electronics, and computer industries are all players in this space, and each has a different outlook on security. As much as regulations are bemoaned by industries generally, with the stakes so high, industry players, as well as the public at large, may welcome legal and regulatory guidance in this area.

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### Beyond Driving Pleasure: Innovative Luxury, BMW-Style

s part of its forthcoming model offensive, BMW has developed a new presence for Hits luxury cars that sees the profile and positioning of the most exclusive members of its range refined into a distinct product category. The upcoming BMW 8 Series and BMW X7 as well as the BMW i8 and the upcoming BMW

vide mobile phones and other personal devices

with Internet access. Once connectivity exists,

connections become virtually unlimited. A few

the number of connections and purposes for

i8 Roadster will join the BMW 7 Series in the brand's significantly expanded luxury segment line-up. These cars appeal strongly to the heart, so they are particularly well placed to enrich the characteristic lifestyle of customers in this segment with authentic, emotionally engaging experiences. The identity and attitude shared



by BMW's elite models are echoed in a newly designed logo which combines a black-andwhite version of the manufacturer's roundel first used 100 years ago with the company name "Bayerische Motoren Werke" written out in full. The new presence for the brand's luxury-segment models will be unveiled

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for the first time at the IAA Cars 2017 show in Frankfurt on 14 – 24 September 2017.

With its classical, understated aesthetic and the company's orig-

inal name spelt out, the logo highlights BMW's inimitable history. The daring to explore standalone solutions and concepts, and the ability to take on challenges and emerge from them stronger, are deeply-rooted elements of BMW heritage. This approach – encompassing everything from the first altitude-world-record-breaking aero engine to the launch of the BMW i brand – has proven to be a recipe for success, as well as showcasing the company's passion, confidence and gift for bringing the future into the present day. And it is also apparent in the lifestyle of a target

group well accustomed to trying new things, taking the lead and choosing a free and indepen-

"For these people, life is all about making the best possible use of the time available to them," said Hildegard Wortmann, Senior Vice President Brand BMW. "Their motto is 'to own the moment' – i.e. to max out every snap-shot of time with meaningful and beautiful things.'

The ongoing development of luxury as a concept is closely linked with the numbers 7 and 8 in the BMW model scheme. The BMW 7 Series luxury saloon has served as a paragon of exclusive driving pleasure, as per the brand's

> unmistakeable style, for 40 years now. Elsewhere in the range, the avant-garde, dynamic and innovative use of form, not to mention the force of technological progress, continue to shape

the fascination of the BMW 8 Series, whose lineage dates back to 1989. The new 8 Series distils elegance, dynamism and luxury into the time-honoured essence of a BMW coupe. The plug-in hybrid BMW i8, meanwhile, has penned the first chapter in the future of the sports car. All in all, innovations based on ground-breaking achievements, such as the use of carbon fibre in series-produced cars, remote-controlled parking and BMW laser light, mark out the progressive character of the current family of luxury BMWs.