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The X7. It's finally here

BMW's long-anticipated three-row crossover



Hyundai Palisade

New flagship SUV

Audi Q8

High tech crossover

Porsche Cayenne Turbo

The Ultimate Porsche SUV, for Now

The all-new Hyundai Palisade.

Always Remarkable.



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Full of surprises.

The X7. it's finally here BMW's long-anticipated three-row crossover



It's hard to fathom that over two decades have passed since BMW reimagined the SUV with its X5 Sport Activity Vehicle. With car-like handling and comfort, good-enough off-roadability for going to the weekend cabin, its success sparked a whole new range of smaller X models not just for BMW but for the whole indus-

Despite the X5's success though, BMW has never ventured into the larger and more profitable territory occupied by the likes of Range Rover. Somewhat ironic

since one can assume that the original X5's success paved the way for BMW to eventually being able to afford to buy the Land Rover brand.

All of this has changed now with the company's X7. It goes without saying that it's BMW's biggest SUV and an extremely important vehicle for the company. Mercedes-Benz's full-size three-row GL (now the GLS) has been out for 12+ years and BMW dealers have been left without an equivalent competitor all this

Therefore BMW has a fair amount of ground to make up. Happily though, based on my test drive, it was worth the wait.

Is it still worthy of the BMW badge?

Not only is the X7 BMW's most luxurious SUV, it's arguably the most impossible for overlook. The pair of oversized BMW kidney grills have been mocked gently by ardent BMW traditionalists, but in person, it all

Unsurprisingly, the styling is similar to the smaller X5





albeit blown up in every exterior dimension save it for the vehicle's width. Measuring nearly 17 feet long, the X7 is huge outside, huge inside, but yet even at first glance, refined and luxurious.

Dimensionally, it's 1.3 inches longer than the outgoing Mercedes-Benz GLS450 and a whopping 23mm (9 inches) longer than the X5.

Taking its themes from the facelifted 7 Series and the 8 Series, the X7 rounds off BMW's three-flagship fleet. It's not just about wedging in as many people as possible but rather BMW wanting us to see this top-end trio as a separate high-end luxury series for their brand. Back to the question as to why BMW has waited so long to introduce the X7. Daniel Nowicki, BMW's Driving Dynamics engineer explains, "We had to be sure we could design a vehicle this large and still deliver the same BMW driving experience".

So, has it worked?

BMW's expertise in chassis dynamics is evident here and the X7 is far better than the typical American "sports" SUVs based on trucks. The ride was consistently good on coarse highways, the lumpy rural roads, or the urban streets in small town British Columbia. The X7 represents a different sort of Ultimate Driving Machine, disguising its 2.3 tonne mass commendably on twisty ribbons of tarmac. On a recent press junket, it hung on with impressive dignity through our 400 kilometre round trip of Vancouver Island's backroads. The vehicle perfectly illustrates why BMW's latest SUVs are now competing with their luxury sedans. A haughty driving position, quietness, huge living space for the family, a plush ride when you want it, but yet

with just a push of a button, a surprisingly capable machine through the bends.

Roll was shockingly well controlled and steering was conducted with measured authority. When fitted with the BMW Integral Active Steering system -BMW speak for passive rear wheel steering - the X7's nose feels much quicker to react and dive into a corner. The rear wheel steering system also shrinks the turning circle, making the vehicle feel a lot smaller than it is in city centres and parking lots.

More on that later.

What does the line-up look like?

A pair of turbocharged petrol engines are available, both of which also appear on other vehicles in the BMW portfolio. The xDrive40i relies on the BMW 3.0-litre single turbo straight-six producing 335hp, and the xDrive 50i a twin turbo 456 hp 4.4-litre V8. Expect the X7 xDrive40i to complete the sprint from 0-100 km/hr in a very respectable 5.6 seconds whereas the burly twin-turbo V8 xDrive50i completes the run in a short 4.7 seconds. For comparison, the latter is about as quick as a Porsche 718 Boxster. Both engines work wonderfully, even when tasked with moving more than 5000 pounds.

All X7s are fitted with ZF's glorious satellite navigation-guided 8HP eight speed automatic transmission and can tug up to 7500 pounds with the factory hitch. If you intend on towing with the X7, the V8 is the one

For the 2020 model year, both the X5 and X7 will

receive new M50i performance variants positioned above the existing 50i models. Both of those will pack a whopping 523 hp as part of the M Performance brand umbrella, like the existing M850i and M340i models.

Ride and handling

The X7 is built on BMW's new expandable modular platform called CLAR. This new foundation is shared by everything from the all-new G20 BMW 3 Series to the X5 to the X7.

As such, many of the suspension parts are shared between the X5 and X7. However, the X7 gets its on specific tuning. Four corner air springs with adaptive damping and adjustable ride height is standard equipment. The suspension itself is comprised of sophisticated front and rear multilink units.

It is easy to tell that the X7 was designed to gobble up long stretches of motorways in the upmost of comfort and driving pleasure. Even with my test vehicle's attractive optional 22-inch wheels, the ride is comfortable and calm. In Sport mode, things are tightened up significantly enough to feel a difference through the corners. Sharp impacts on poor road surfaces very occasionally still punch through the sophisticated suspension setup, but this is largely due to the girthy

While I didn't get a chance to sample this, X7 customers who plan to take their vehicles off the beaten path can opt for an Off-Road package. This fits the X7 with





modest underbody armour, a limited-slip rear differential, and four xOffRoad modes. These modes (xSand, xRocks, xGravel, and xSnow) automatically alter the four ride height and stability control settings. The air suspension can be raised by up to 40mm, which should more than cope with most owners' demands. On the flip side, the M Sport package is more of a visual appearance package, dressing up the interior with an alcantara headliner, an M Sport steering wheel, and replacing all the exterior chrome trim with more subtle black trim.

Since BMWs are indeed supposed to be Ultimate Driving Machines, BMW has also created a Dynamic Handling package for parents who want even more handling prowess from their X7s.

This package adds active anti-roll bars, larger M brakes, and a very handy rear-wheel steering system which helps to make the X7 feel smaller than it is by increasing steering response. On V8 X7's, the package also includes an electronically controlled rear differential (clutch-type on 40i trims).

On the active driving technology front, the X7 also uses Continental's brake-by-wire system, moving away from traditional vacuum-assisted brakes. You'd never know it though, as the X7 handles the way a BMW should. Moreover, when equipped with the Dynamic Handling package, the computer uses the navigation system data to determine what lies ahead, readying the chassis pre-emptively by stiffening things up. In essence, the X7 uses predictive-driving technologies

coupled with the active anti-roll bars to improve the overall driving experience. Since the X7's cameras are linked to the system, they enable a smoother ride by preventing the wheels from dropping into road craters. Magic.

On the inside

The X7's interior is perhaps some of BMW's best work as of late. Like its smaller X5 sibling, the large windshield and commanding front seating position provides a high level of driver confidence due to the expansive view forward.

The interior is insanely hushed thanks to extensive sound deadening, acoustic glass, and active noise cancellation technology.

Unlike a top end full-sized Range Rover, all X7s have









three rows of seats. This large SUV can be fitted with either a three-seat second row bench or a pair of captain's chairs. Moreover, the third row is comfortable for more than short trips across town. BMW predicts that 40 per cent of buyers will opt for this six-seater option. The second row can be electrically moved up to 14.5 cm (5.7 inches) and tilts forward to provide access to the third row. The entry point is still a bit of a squeeze but there is decent space for two full-sized adults in the third row once seated. In many larger SUVs, the third row passengers are treated as second class citizens. However, not so in the X7. There are heated seats, cupholders, a dedicated moonroof, and even a great looking climate-control panel for separate third row ventilation control.

Row three also includes LATCH/Isofix child-seat

mounting points. This means that if you've got a young family and regularly carry more than five, the X7's third row is a real bonus.

With all three rows raised, the X7's cargo area is smaller than a Volkswagen Golf's at 326 litres (12 cu.ft). The handy two piece Range Rover-like electric split tailgate actually helps to stop the stuff you've crammed in from falling out. When row two and three are electrically lowered, there is up to 750 litres and 2120 litres of space respectively.

Given its status near the top of the BMW tree, it should be no surprise to find that the X7 benefits from all of BMW's latest generation technology. BMW has done a masterful job to satisfy the whims of those who can afford to spend big dollars on a top-of-the-range SUV.

The aforementioned second and third row seats can be electrically slid, tumbled, tilted, folded in seconds, and all massage and ventilation can be added to the first and second rows if the captain chair's option is selected. Up front, nearly every surface can be covered in leather. Even the gearshift lever, iDrive controller, and start button can be spec'd in crystal. Fancy! The plastics feel a notch above the competition's too. For a price, even the front cupholders can even be heated and cooled. The driver is faced with BMW's latest-generation iDrive infotainment system with a massive 12.3-inch touchscreen. There is a second 12.3-inch configurable screen that houses the new all-digital gauges. Fortunately there are plenty of hard physical buttons that still exist to manage most controls, including the HVAC system.

All of the graphics are clean, clear, and BMW's whole new interface has a feel of sophistication that befits the rest of the vehicle. However you control the system, via the iDrive controller or the touchscreen, there is a reassuring smoothness and logic to the system.

Existing BMW owners should be able to find their way around the system rather quickly, and there are handy pop-up tool tips that help you to find even the fiddly sub-settings quickly. Both Apple CarPlay and Android Auto are available and operate wirelessly. No need for cords here.

As an internet connected car, BMW's new Personal Assistant responds to "Hey BMW" commands and does a convincing impression of Siri. Like Siri, the more you

use it, the better it gets. Unlike Siri though, the BMW Personal Assistant is able to respond to commands and questions regarding the vehicle's function itself.

Final thoughts

No one "needs" full-sized luxury SUVs like the BMW X7. However, it's clear that consumers want them. While it has taken BMW 12 years to catch-up to its Stuttgart rival, this is the proverbial case of better late

While it won't be able to convince you it's a sports car, the X7 rides like a lifted version of the 7 Series flagship, with a good deal of composure and comfort. You are always aware that there is a lot of mass at work, but the same applies to is rivals as well.

Do buyers of large sport utility vehicles really care about vehicle dynamics? Perhaps it's not that the world wants a seven-passenger Nürburgring-tuned shuttle, but rather that you don't know you like it until you try it. While your passengers might not fully appreciate it, the X7 surprises at how well it's game enough to be hustled along.

It turns in with keenness and vim worthy of the BMW badge but yet, even in the firmest "Sport Plus" mode, it rides well. If you must really have a full-sized SUV, there is a lot to enjoy once you're onboard the X7. There's no doubt that its mix of six or seven-seat versatility, dynamic ability, and luxurious refinement will be tough to match by any rivals for comparable money.



Porsche Cayenne Turbo

The Ultimate Porsche SUV, for Now



The Cayenne may be Porsche's bread and butter product — representing a large chunk of total sales since the original launch 16 years ago — but that doesn't mean it has to be boring. And the 2019 Turbo variant proves the vehicle is anything but, entering its third generation with a smaller yet more powerful engine and a whole lot of cutting-edge technology. Read on.

If you're a true Porsche enthusiast, then you probably aren't expecting any radical updates to the exterior. And you'd be right.

Subtle evolution

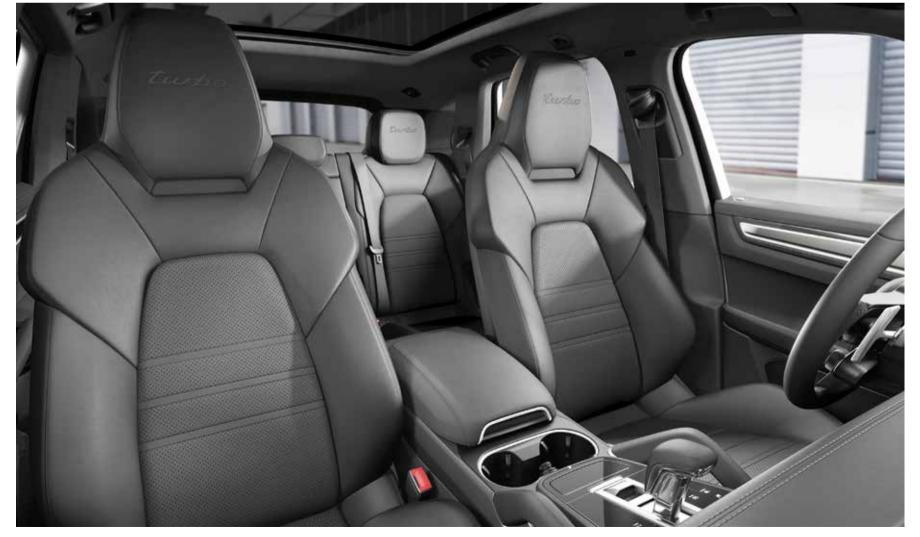
"The E2-1 (chassis code for second generation Cayenne) in 2011 was marked by an extreme design change, which is atypical for Porsche. I'd say the major change for the E2 II (refresh) in 2014 was the new engines, and we lost the manual [transmission], says manager of product planning Jonathan Thomson at a media event held at Mont-Tremblant in Quebec, Canada.

"In terms of design, the new E looks very familiar to

the E2 II. We won't expect to see [any more] massive changes, similar to the 911's hereditary design," says Thomson, adding the SUV really came into its own

The crossover has grown a little — 71 millimetres longer and 29 millimetres wider than the outgoing model, although the overall height has dropped 20 millimetres for a sportier, hunkered down appearance. One easy way to tell the 2019 apart from the rest is at the back. Similar to the Carrera, a thin light bar









connects the taillamps, extending above the "Porsche" script in the centre of the liftgate. The rear valence possesses raised strakes, and house quad square, rather than round, tailpipes. The roof spoiler is also adaptive, the centre section able to automatically articulate upwards.

Completely revised infotainment

Inside, the dashboard is almost unrecognizable compared to before. Previously known for having too many buttons and switches, the Turbo now utilizes the Porsche Advanced Cockpit showcasing an ultra high definition 12.3-inch wide touchscreen display responsible for manipulating climate and entertainment settings among others, and two seven-inch HD screens flanking an analog tachometer showing a variety of customizable information. Even the suspension and traction management controls near the shifter are haptic-feedback based.

Having a dynamic mini-map displayed on the right side is life changing when navigating unfamiliar roads. That said, in my opinion there is such a thing as over

digitization. I was playing around in the menus and at one point the electronic fuel gauge disappeared, not what one wants happening while out driving in the middle of nowhere. A lot of commands once executed with a single button push are hidden away in submenus. Certainly takes some getting used to.

More power

On the performance side, the Turbo is powered by a 4.0-litre twin-turbocharged V8 motor, replacing the former 4.8-litre bi-turbo unit, mated to a eight-speed Tiptronic S automatic transmission. Output is up to 541 horsepower (+21) and 769 Nm of torque (+19), but feels much faster because the turbochargers are now installed inside the cylinder's V shape. This shortens the exhaust path improving engine responsiveness.

Unfortunately the conditions on the ground were quite slippery I didn't get to push the crossover too much. However I did make good use of the wicked new brake setup. Called Porsche Surface Coated Brakes, the massive 415-millimetre front, 365-millimetre rear rotors are treated with a tungsten carbide layer increasing performance and, as a side benefit, generate virtually no brake dust and feature a mirror polish finish. Sitting overtop are white 10 (F) and four (R) piston calipers. The stopping power is immense, even on the icy surfaces I experienced.

Four door coupe

The 2020 model year sees the addition of a "coupe" body style. It's not a two-door version, but rather embodies the spirit of one boasting a 20-millimetre lower greenhouse and steeply sloping back window. The license plate is integrated into the bumper instead of the tailgate helping to create the illusion of the vehicle sitting closer to the ground. Porsche Active Suspension Management, an electronic damping system, and the Sport Chrono Package, adding a Sport Plus dynamic mode, are both standard equipment. Two different motors may be fitted: the same 3.0-litre V6 found in the base Cayenne, or the Turbo's 4.0-litre V8.





2020 Mercedes-Benz GLS



For decades and decades, the Mercedes-Benz S-Class was considered the top of the Mercedes-Benz food chain. Indeed, it was and is still considered the pinnacle of what is to come in automotive technology years ahead of more plebeian vehicles.

Mercedes-Benz is so serious about the importance of their new flagship SUV, the 2020 GLS, that they've actually dubbed it the "S-Class of SUVs".

Bringing new levels of luxury and space, the new GLS is the company's largest and most luxurious SUV. It sits atop Benz's SUV hierarchy and offers more space, comfort and luxury This all-new model essentially doubles down on the large, unibody three-row crossover craze that it helped to establish over 12 years ago. Based on a new platform, the 2020 Mercedes-Benz GLS is equipped with updated styling, indisputable luxury, more engaging dynamics borrowed from its other newer tri-star siblings, and hugely more advanced

Mercedes didn't feel the need to supersize the grille of

the GLS as BMW did with the X7, but the GLS still has an imposing presence when you see one up close. The vehicle looks very much like a larger, well-proportioned version of the recently revamped GLE.

What are the key highlights?

Two main models will initially be offered at launch, the GLS450 and the GLS580. The former is a six-cylinder and the latter an eight. What's new is that both will feature electric-assist hybrid powertrains. Called EQ Boost, this system is basically a 48-volt electrical system





with an integrated starter-generator.

The GLS450's 3.0-litre turbocharged inline six-cylinder pumps out a silky smooth 362 combined horsepower between the gas engine and the electric motor. The GLS580 is significantly more powerful, generating 483 horsepower from the combination of its V8 and the electric motor.

As before, all GLS models come standard with adaptive air suspension. What's new though, is Mercedes' optional system called E-Active Body Control. This active suspension system was first launched on the GLS' little brother, the GLE.

E-Active Body Control works in conjunction with air springs that can raise or lower each corner independently by 3.9 inches while adding or subtracting as much as 1,600 pounds of force by pumping hydraulic fluid to the top or bottom of each damper. It takes as

much as 17 horsepower to run the hydraulics, aided by the 48-volt electrical architecture (hence the "E" in

The system also uses a camera to scan the road about 450 feet ahead and preemptively adjusts before the wheels get to that spot. This results in better ride comfort and handling. It won't come cheap though, and many customers may find the standard setup plenty smooth enough.

Mercedes-Benz's SUV development chief, Andreas Zygan, also says that the 2020 model is 20 per cent quieter, equaling the previous generation S-Class. Other figures that have increased include the cargo area, which is now 21 per cent bigger thanks to a 2.4 inch longer cargo floor behind the third-row seat.

There is even a standard "carwash mode" that adjusts the mirrors, windows, sunroof, climate control, and

wipers for owners, and raises the air suspension to the highest setting so that the GLS can be effectively cleaned underneath. The feature shuts itself off as soon as the vehicle reaches 19 km/hr (12 miles/hr) upon leaving the carwash.

Perhaps a gimmick, but how very convenient for those too busy to wash their own cars!

What about the passenger comfort?

The GLS-Class cabin has been completely overhauled. Borrowing a dashboard and cockpit layout from the similarly new GLE-Class SUV, the new GLS-Class is far more modern than the 2019 model it replaces. Two huge 12.3-inch digital displays fill the majority of the dashboard: One serves as a reconfigurable gauge display for the driver while the other handles infotainment duties and runs Mercedes-Benz's new MBUX







software that features an iPhone-like virtual assistant. More on that later.

Since the GLS has grown by 51 mm longer (2.08 inches), predictably, the interior space has also increased. The GLS is now actually 62mm larger (2.44 inches) longer than the BMW X7.

Fitted with seats for seven or six with the optional second-row captain's chairs, passenger space is generous, particularly in the first two rows. There is an extra 87 mm (3.43 inches) more legroom in the second row versus the previous GLS.

The third row is a bit more commodious than the GLS's main rival, the BMW X7, and can accommodate a full-sized adult (up to 1.94m) a little more easily. In order to be chauffeured in comfort for long hauls though, the second row is probably the place to be still. In seven-seat form, the GLS houses a 355-litre load bay. Lower all the seats (electrically operated of course), and the cargo capacity rises to 2,400 litres.

The greatly upgraded interior along brings the GLS close to realizing its billing sa the S-Class of SUVs.

What about technology?

Mercedes-Benz has been especially keen to improve the sense of luxury inside the car, particularly for those in the back. The company has certainly packed in the S-Class-esque luxury features, with five-zone automatic climate control, touchscreens available in the second row and a whopping 11 USB ports.

The new GLS gets the MBUX Rear Seat Entertainment System, featuring two 11.6-inch touchscreens for movies, music and internet surfing. It even comes with a separate tablet for controlling all of the MBUX comfort and entertainment functions from the rear seats. Deviating from its S-class SUV mantra, the car's interior is identical to that of the smaller GLE, combining Benz's twin-screen layout featuring the latest MBUX infotainment system. If you're not familiar with MBUX, it's Mercedes' new infotainment system, introduced in its cars last year. It's a fantastic intuitive system, but still has some usability bugs. A 4G LTE WiFi hotspot is integral to the MBUX system and includes Mercedes' own version of Siri or

Google Assistant that responds to "Hey Mercedes." After using that prompt to perk up the ears of the Mercedes virtual assistant, commands such as "I'm hungry" will bring up a list of nearby restaurants on the screen. If you want the temperature lowered, just say "I'm hot" and voila, the temperature is lowered. Of course, it's not perfect and the system does get tripped up, but it is an adaptive system and will learn your speech pattern as times goes on, further refining how it responds to your commands.

The Verdict

Is the new GLS an S-Class? Perhaps not quite, but to its credit it's close. It's a great choice to consider for those who have gobs of disposable income, have a hankering for luxury, capability, and quality, but yet want a nice big SUV for hauling their families around. If you're looking for a cavernous slice of luxury in the form of a large SUV, the GLS is certainly at the pointy end of an expensive cast of rivals. It offers impressive new tricks up its sleeve and certainly brings family hauling to the luxury segment.



2020 Hyundai Palisade

New flagship SUV



Move over Santa Fe, there's a new top dog in town: the first ever 2020 Hyundai Palisade. This premium midsize SUV offers distinct styling, some neat tech and seating for up to eight. Read on.

"The new 2020 Hyundai Palisade clearly evokes design imagery worthy of Hyundai's flagship SUV, with new levels of all-road, all-weather capability, technology, safety, roominess and efficiency, all packaged in cutting-edge design," says Mike O'Brien, vice president of product, corporate and digital planning, at Hyundai Motor America, in a news release. "This new Hyundai SUV is the ultimate family vehicle for practical, comfortable daily use and memory-making road trips whenever the appeal of the open road should beckon."

Next-gen looks

Bold is an excellent adjective to describe the exterior design of the vehicle. What appear to be sliver-thin headlamps are in fact LED turn signals, with the actual projector headlights and foglights below, separated and stacked atop one another in the centre of the bumper. In the middle is a large signature cascading grille comprised of several 3-D aluminum elements intertwined

Looking down the side, big sculpted fender arches and aluminum-coloured door handles and available 20inch wheels draw one's gaze, and around the back, the brake and indicator lights are arranged vertically within









the tail lamp housing to complement the front. Despite the rather boxy form factor, the crossover employs a number of tricks like a raked windshield, roof spoiler and aero panels installed underneath to achieve a low 0.33 coefficient of drag.

Comfort and convenience

Occupants are afforded quite a bit of interior comfort, enjoying 1,120 millimetres of legroom in the front, 1,076 middle and 797 rear. Buyers have the choice of swapping out the three-passenger second row bench for a couple of plush captain's chairs. Access to the third row in the case of the former is made easy as they slide forward and out of the way via easy one-touch operation.

Instead of floor-mounted HVAC, the vents are actually fixed overhead providing quieter and more efficient distribution of airflow. Another innovative feature is an optional Blind View Monitor system, which uses integrated cameras to display the side view of the vehicle on the 12.3-inch high-resolution digital instrument

cluster screen anytime the turn signal is activated.

Smooth six

Propelling the Palisade is an Atkinson-cycle 3.8-litre V6, mated to an eight-speed automatic transmission. Generating 291 horsepower and 355 Nm of torque, the engine is quite capable of moving the approximately 2,000-kilogram SUV around even if acceleration isn't particularly spectacular. It can be a tad on the noisier side as well when the RPMs begin to climb.

Both front-wheel and HTRAC all-wheel versions are sold. AWD-equipped models are able of varying torque distribution between the axles if additional grip is required, like on a sandy stretch of tarmac, or if the driver selects one of the custom settings using a knob on the centre console. Sport, for instance, sends extra power to the rear wheels to deliver a sportier experience on winding roads. The 2020 Hyundai Palisade is assembled in Ulsan, Korea.





2020 Audi Q8

High tech crossover



Launched just this year, the Q8 is Audi's newest range-topping SUV slotting nicely above the Q7 in the lineup. Leaving quite an impressive footprint - measuring 4,990 millimetres long, 2,000 wide 1,710 tall, the commanding size offers an impressive amount of room for up to seven passengers.

Wearing the new face of the Q family, the front fascia is characterized by a large cross hatch grille, multiple large air inlets and an integrated front spoiler. The side profile is quite low-slung for the segment with bulging fender blisters lending an athletic look. The rear

features a roof spoiler, a pronounced sill below the window and a lower bumper diffuser housing trapezoidal dual exhaust outlets. Up to 22-inch wheels completes the athletic look.

Loads of hi-tech wizardry is present found outside and in, like the available HD Matrix headlights comprised of 32 individual LED bulbs and a unique light strip running across the tailgate that is configurable using the MyAudi companion smartphone app.

Smart interior

Inside, gone is the conventional rotary dial and physi-

cal buttons. Most vehicle functions are now controlled via one of two large MMI haptic and acoustic feedback-equipped touch response screens stacked on top of one another (10.1-inch above/8.6-inch below) in the centre stack. Operating similar to a modern mobile device, taps on the glass while launching apps can be heard and felt. Another option is voice command: the Q8 understands natural speech, for example "I'm hungry," will bring up local eateries, rather than having to say something like, "List nearby restaurants." For a subscription fee, Audi Connect online services





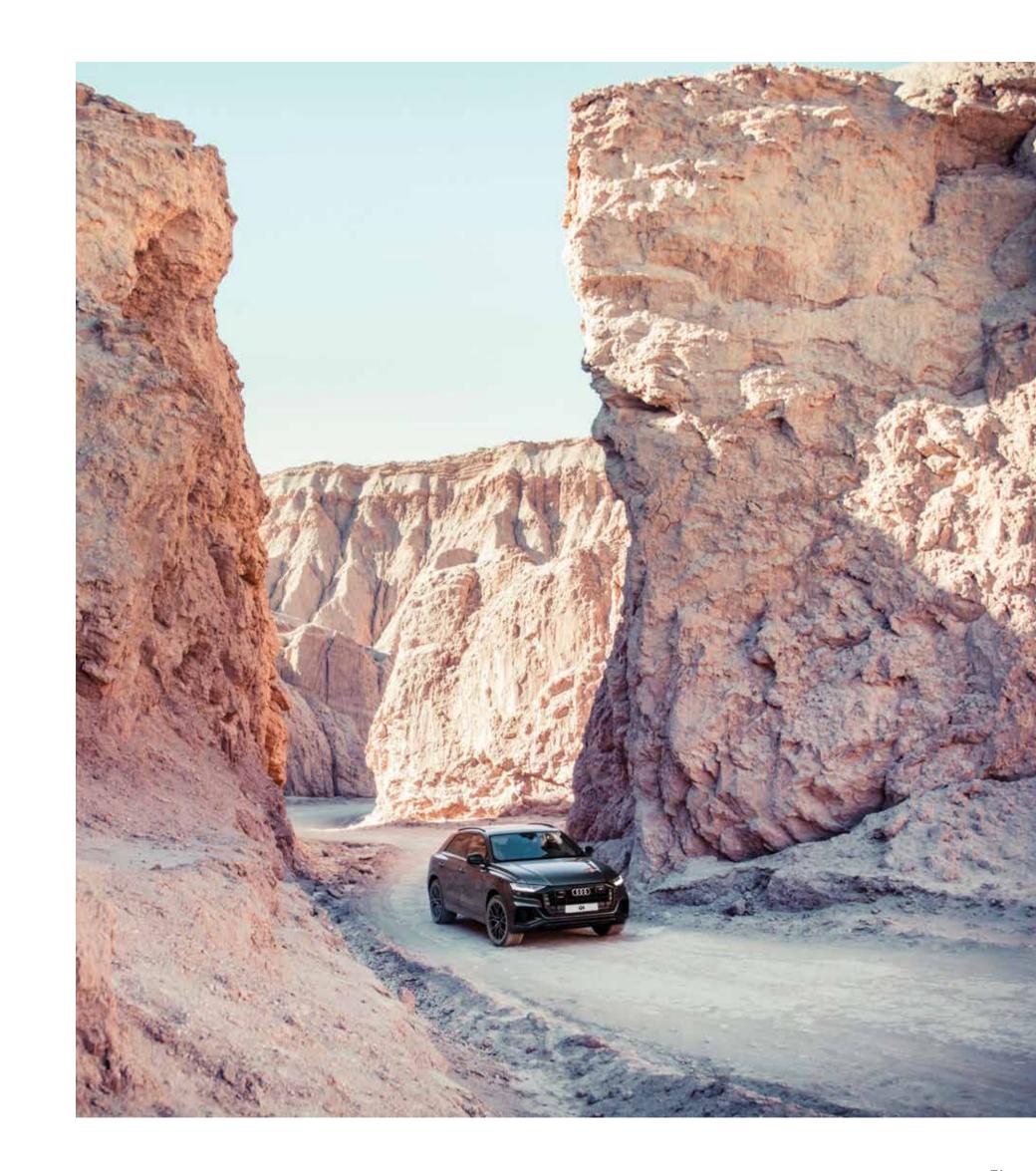
grant Internet access from right within the vehicle. Users may look for parking spots, get updated on the weather, and look up Yelp reviews of a business. Or, load up a streaming services such as satellite radio or Amazon Music.

Also fallen by the wayside is a traditional gauge cluster. The second generation of the virtual cockpit is fully customizable, the 12.3-inch display capable of showing a digital speedometer and tachometer, a 3-D overlay of Google Maps, or a cornucopia of different information in tack-sharp 1920x720 high definition resolution.

Partially electrified

The Q8 is powered by a 3.0-litre turbocharged V6 engine producing 335 horsepower and 500 Nm of torque, mated to an eight-speed automatic transmission. Audi's iconic Quattro normally rear-biased all-wheel drive system gives confidence to motorists no matter the weather conditions. Interestingly, an on-board lithium-ion battery and belt alternator starter captures kinetic energy created during braking allowing quiet, fuel-free coasting during low-load scenarios. Electronic damping suspension hardware soaks up

bumps on rough road surfaces, and intuitively firms up when the route turns smooth and twisty. An optional Adaptive Chassis package adds on air ride height adjustability. An off-road mode increases ground clearance to avoid any potential obstacles, and there is a setting to lower the ride height to ease the loading and unloading of cargo, or passenger ingress/egress. One more trick up its sleeve is remote garage pilot: activated using the app and made possible with five radar sensors, six cameras and 12 ultrasound sensors, the vehicle is able to autonomously enter and exit a garage.



Mitsubishi Montero Sport

Continued evolution



Fans of the sport utility vehicle segment should be delighted to hear the Mitsubishi Montero (also known as the Pajero in certain markets) Sport receives a makeover this year, bearing all of the automaker's current design language and latest technology. Mitsubishi says the crossover was conceived from a "stylish and comfortable off-road SUV" concept. The front end is further enhanced compared to the previous generation, now embodying a higher hood and continued evolution of the Dynamic Shield face integrating the refreshed headlights, grille and front bumper opening into one cohesive unit via an X-shaped chrome garnish that has grown in thickness. Officially, the aggressively-shaped Dynamic Shield is explained on a corporate website as a philosophy

"staying true to Outlander's history of commanding, athletic creations." Another claims it is "meant to express dynamic and innovative styling as if bracing the vehicle for better safety." Either way, the look is unmistakable.

Cabin

The exterior polished metallic theme is carried over into the interior, where two silver "bars" splits the high console proportion dashboard in half (translation — the console is raised, which is visually appealing and puts controls at easy access but cuts down a little on legroom). The centre stack, housing the infotainment system with new larger display and climate controls seamlessly extends all the way down to the shifter area. The seating position in the Pajero Sport is comfortable,

thanks to the sculpted front seats, and provides a great view of the road. When you're out driving, the level of ambient noise is surprisingly low because of upgraded sound insulation materials and specialized tuning of the returning turbocharged 2.4-litre MIVEC diesel motor.

Output of the mill is 178 horsepower @ 3,500 rpm and 430 Nm @ 2,500 rpm for plenty of low-end grunt, mated to an eight-speed transmission specially developed for this particular application. The efficient powertrain contributes to low CO2 emissions of less than 200 g/km, well under the industry standard. Don't be fooled by its handsome body, as the Montero Sport is fully ready to get dirty when the occasion calls for it. Aside from the company's proven Super-







Select 4WD (four-wheel drive) II system, the vehicle takes advantage of a dedicated off-road mode capable of calibrating engine and suspension dynamics for optimum all-terrain performance regardless of the terrain, and hill descent control that automatically handles braking duties when travelling down a steep decline so the driver can concentrate on steering. Even the total wade depth allowance has been increased, during those times you may decide to fjord a deep puddle or small creek.

Chock full of safety

To keep occupants unharmed whether during a highway run or a jaunt in the backcountry, the midsize SUV benefits from the proprietary Reinforced Impact Safety Evolution (RISE) impact-resistant construction. Seven airbags are fitted throughout the inside, and consumers can opt for extra electronic safety features like forward collision avoidance (automatic braking) and blind spot monitoring. The Ultrasonic Misacceleration Mitigation System (UMS) helps prevent parking lot mishaps by utilizing

front and rear sensors to detect potential obstacles. If the driver doesn't steer away from a potential collision or suddenly hits the gas pedal by accident, UMS will cut the throttle temporarily. Other additions for 2019 include a power tailgate, controllable using the

Mitsubishi Remote Control companion smartphone app, electric parking brake with auto hold, and eightinch LCD screen in the instrument cluster. The Montero Sport available in 90 countries such as the Middle East, Thailand, Australia, Africa and Russia.





Top four body-on-frame SUVs

Built for business



Automotive ads often mention terms such as unibody or body-on-frame (BoF) architecture when talking selling points. But what exactly do these terms mean? The former is commonly utilized in building passenger cars and crossovers, where the body and chassis of the vehicle are created as a singular unit; the latter, usually seen on trucks and large SUVs, feature the body sitting on top of an underlying frame, as the name suggests. An overwhelming number of vehicles on the road nowadays are unibody, as this type of construction is usually lighter in weight, more structurally sound and compact in size. The alternative, however, has benefits

of a different sort. For instance it's quite resistant to twisting forces, so traversing rough terrain or towing a lot of cargo is no problem. In many cases, repairs can also cost less due to multi-component underpinnings that can be isolated and fixed.

In today's article, we dive into four BoF models, like the time-tested Toyota 4Runner, and why buyers should look into them.

Infiniti QX80

Measuring 5,339 millimetres in length, 2,029 millimetres in width and 1,925 millimetres in height, the flagship SUV from Infiniti is no small vehicle.

Highlights include functional athletic body panels contributing to a low 0.367 coefficient of drag, "human-eye" wraparound automatic LED headlights; and a classy and spacious cabin that seat up to eight

Only one powertrain is offered: a 5.6-litre V8, producing 400 horsepower and 567 Nm of torque and capable of towing 8,500 pounds. Available in two or four-wheel drive, the QX80 possesses some beefy double-wishbone independent suspension utilizing Dual-Flow Path twin-tube dampeners and autolevelling functionality in the rear.







Toyota 4Runner

This rugged mid-size was originally launched 35 years ago and has been the adventuring automobile of choice for countless owners over five generations. Sold in a variety of grades tailored to individual needs from 2WD to full-time 4WD with a locking centre differential and 9.6 inches of ground clearance — all 4Runners pack a 270-horsepower, 4.0-litre V6 engine paired to a five-speed automatic transmission, can seat seven passengers and haul a maximum of 5,000 pounds.

Ford Expedition

All new for 2018, the Ford improved on the outgoing product significantly giving the model an aluminumintensive body atop a redesigned high-strength steel frame that is 300 pounds lighter. For fans of off-roading, an optional FX4 package equips the Expedition with an electronic limited slip differential, specialty shocks, all-terrain tires, seven skid plates and

chrome running boards. A Terrain Management System has also been introduced, letting users choose one of seven drive modes, each optimizing gearing and throttle and drivetrain response, to suit to multiple environments and scenarios. There's Normal for puttering about





town, Sport to increase performance, self-explanatory Tow/Haul (rated at 9,300 pounds), among others. Power is provided by a turbocharged 3.5-litre EcoBoost motor mated to a 10-speed automatic gearbox.

Mercedes-Benz G-Class

Opulence meets ruggedness in the Mercedes-Benz G-Class. Looking quite unlike anything else in the German luxury automaker's lineup, the G-Wagen, as the SUV is also known, is built for going where cars shouldn't boasting three 100-per cent differential locks, LOW RANGE gear reduction and a total water and mud fording depth of 28 inches. A 4.0-litre V8 producing 416 horsepower and 610 Nm of torque lies under the hood of the G 550, while the grade-topping Mercedes-AMG G 63 packs a biturbo version of the motor churning out a massive 577 horsepower.



2020 Audi RS6 Avant



It's menacing, it's the German Incredible Hulk, it's the all-new 2020 Audi RS6 Avant. Since its inception in 2002, the car has developed a cult following. For years, the insanity that is the previous generation RS6 Avant has not been a global car, evading the shores

of North America. The C5, C6, and C7 iterations were forbidden fruit, until now. The obsession ran even deeper when Audi thought it would be a smart idea to cram the 5.2L V10 engine

from the Lamborghini Gallardo under the hood in

2010. What you got then, was a 592 horsepower Quattro-all-wheel-drive supercar-killing family estate wagon at a fraction of the price of a supercar. And now, Audi has just unveiled the fourth generation of the wagon. For the first time it will pretty much have global distribution, also being sold in North America.

What's new?

First and foremost, the all-new C8-chassis Audi RS6 has an updated powerplant and come-at-me good

looks. Painted in the matte dark grey featured launch colour, its menacing stance and colour combination looks like something Darth Vader would choose for his

It's good to be bad, in a butch family estate car sort of

Audi says that the RS6 Avant represents the "DNA of Audi Sport" and there have been extensive reworks done to showcase the latest design language of Audi's performance car division.





As such, the new RS6 has grown considerably when compared to the everyday A6 Avant that a real estate agent or sales manager may drive. It is 40 mm wider at each wheel arch and a whopping 80 mm wider overall. Audi Project Manager, Michael Binder, is particularly proud of the bespoke RS6 hood as it was a big investment; his team managed to convince the bean counters that it was worth it for the extra bragging rights.

Because it has the largest brakes Audi has ever fitted to a car, the wheels have to be 21 inches across. 22 inch wheels can be optionally fitted, and the standard steel brakes can be upgraded to ceramic units. Swagger you say? This car has it in spades. In fact, the only body panels carried over from the standard A6 Avant are the front doors, roof, and trunk lid. Everything else is an RS-specific design.

The revamped front-end thinner LED headlights taken from the A7, and the gloss black front grille is an RS-only design and the air intakes built into the front bumper are styled after those on the R8 supercar. For the first time, the Audi logo is available in black as part of black and carbon styling packs.

More Powerrrrr

Under the hood is a newly fettled version of Audi's twin-turbo 4.0-litre V8. With an as-near-as-makesno-difference 600 horsepower (592 to be exact) and 590 lb-ft of torque (up a massive 73 lb-ft versus the previous gen RS6 Avant), 0-100 km/hr runs explode by in just 3.6 seconds. Top speed is officially 304.1 km/ hr (189 mph) when all the options are checked off. There is also a new eight-speed dual-clutch gearbox that has been redesigned to handle the additional horsepower and twist. Audi's Quattro system has been

complemented by an adaptive sport differential to shuffle around power between the rear wheels with the power split starting off at 40/60 between the front and

To wrap this all off, the RS6 is now a mild-hybrid, paired with the same 48-volt-mild hybrid system to increase performance and efficiency. This belt-driven starter/generator system allows the engine to switch off completely when coasting between 54 and 159 km/ hr (34 and 99 mph). The car's computer can also shut down four cylinders when cruising to further save on

Similar to the likes of the Lamborghini Urus is a new intelligent air suspension system that not only works to keep the RS6 Avant level in corners, but also lowers the body at highway speeds to reduce aerodynamic drag. Compared to the standard A6, the RS6 rides 20



mm lower and will automatically drop an extra 10 mm beyond 120 km/hr (75 mph).

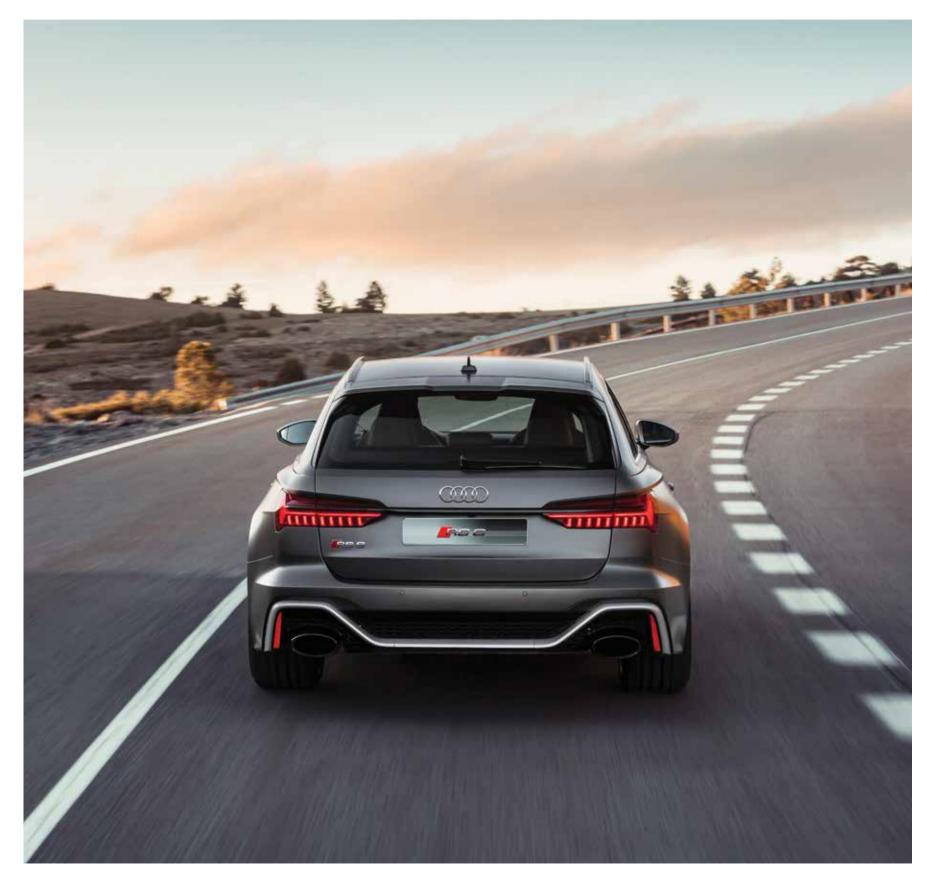
What about the rest of the car?

The RS6 designers were given a brief that asked to "give maximum performance without compromise". This is reflected in the 565-litre luggage compartment, unchanged from the standard A6 Avant's, which expands to 1,680 litres with the 40/20/40 rear seats folded.

Climb onboard and in front of the driver's seat you'll find a leather sports steering wheel featuring RS aluminium paddle shifters. There are leatherand Alcantara-covered sport seats and Audi's latest revamped instrument panel from the A6/A7 range has also been fitted.

What's new are the details, such as the RS button on the steering wheel. The Drive Select function gains configurable RS1 and RS2 modes, which are activated by the 'RS mode' button positioned on said steering wheel. As well as adjusting the engine and handling responses, they also enable bespoke information on the Virtual Cockpit system. For example, you even get a retro Audi Quattro-inspired 'hockey stick' rev counter graphic on the digital dash.

The RS6 Avant is due on sale in early 2020. Pricing has yet to be set, but expect a small increase over the previous model.





2020 Chevrolet Corvette



Corvettes have been around since 1953. That's a freaking lot of years ago, 66 years to be exact. Ever since then, Corvettes have featured a traditional roadster design comprising of a front-engine, rear-drive layout.

Behold the new eight-generation C8 'vette, featuring a mid-engine layout for the first time. That's right, ladies and gentlemen, in a bid to take on European rivals such as the likes of Porsche, McLaren, and Ferrari, the 6.2-litre V8 in the new C8 Corvette is mounted behind the driver.

When it was introduced in 1953, the original Corvette was a striking alternative to the hefty behemoths that dominated American roads with its lightweight

fibreglass body and two-seat cabin. While several midengine prototypes were built, the C8 will be the first production Corvette to make the switch.

Why now you might ask? Mark Reuss, the president of Chevrolet parent firm General Motors, said that "the traditional front-engined vehicle reached its limits of performance, necessitating the new layout." He added, "in terms of comfort and fun, it still looks and feels like a Corvette, but drives better than any vehicle in Corvette history."

With the recent official reveal of the 2020 model, this famous American car brand gained worldwide acclaim. Switching to a mid-engine layout has resulted in a wheelbase stretched to 2,723 mm and a length

increased by 137 mm to 4630 mm. The 2020 C8 Corvette is 1,933mm wide, 56 mm wider than the outgoing C7 Corvette, and at 1,234 mm, the C8 is also marginally lower. Weight is up, tipping the scales at 1,527 kg, 166 kg more than before.

To highlight the switch to a mid-engine design - and perhaps also because almost every other mid-engine car has it - the C8 Corvette features a glass cover to highlight its small block fifth-generation "LT2" V8 engine. Power is up by 40 hp, now at 495 naturally aspirated horses, and torque is marginally up by 10 lb-fts, now at 470 lb-ft.

The C8 will also be the very first Corvette to forego a manual gearbox in favour of Chevy's all-new eight-







speed Tremec dual-clutch transmission. Flappy paddle shifters mounted on the steering wheel are included, but there is also a unique party trick called "Double paddle declutching". This is said to allow the driver to decouple the clutch for greater manual control. Like most modern automatics, the gearshift lever is electronically linked to the mechanical bits of the transmission. This means that there is plenty more room for an array of buttons for the key HVAC and chassis controls. The jury is still out there as to whether the design will be confusing in real life, but that's where we will have to wait for an actual road test drive to experience the vehicle for ourselves.

Other notable interior features include a squared-off steering wheel that was designed to increase visibility of the new digital customizable driver display. Overall, the cockpit is very much driver-focused, with major controls and the infotainment screen being angled towards the boss behind the wheel.

Other performance enhancements include a front splitter and open two-piece rear spoiler that combine together to generate as much as 400 pounds of downforce under aggressive cornering. Making its return is General Motors' optionally available Magnetic Ride Control featuring shocks with a magnetorheological (magnetically sensitive) fluid that allows the shock absorbers to respond quickly based on road conditions or driver settings.

The entry level version of the new C8 Corvette will be dubbed the "Stingray", reviving a nomenclature first used in 1963. Despite being the base or entry level model, 0-60 mph (0-96 km/hr) sprints are said to be accomplished in under three seconds.

Options-wise, there's an FE1 base car, an FE3, which incorporates the Z51 performance package with passive dampers and Michelin Pilot Sport 4S summer tires. The top-level Stingray is known the FE4, and combines the Z51 package with the Magnetic Ride Control adaptive dampers.

Similar to the C7 Corvette before it, the C8's Z51

package adds an electronic limited-slip differential, bigger (steel) brake rotors and calipers, and different transmission ratios. But now every C8 Corvette gets a dry-sump-equipped engine.

More powerful C8 variants are due to follow, but with these performance numbers, the C8 Corvette Stingray will be the fastest base-level Corvette ever.

So there you have it, the C8 Corvette, in ways very different than the C7 before it. But also in all ways likely to be a better and remarkable car than its predecessors.

Look for the first deliveries to arrive in showrooms before the end of the year.





Parkonk

Exciting offers on Volvo's

flagship XC90 SUV and the S90 Sedan



Trading Enterprises – Volvo, the exclusive distributor of Volvo vehicles in the UAE, has announced exciting offers on its popular XC90 and S90 models. The offers are valid across all Trading Enterprises – Volvo showrooms in the UAE.

As part of the campaign, customers can drive away in 2019 XC90 or S90 with offers worth up to AED 20,000 that includes free insurance for the first year, 3 years or 60,000 kilometers service contract, 5 years

or 105,000 kilometers warranty and 3 years 24-hour roadside assistance. Customers can also trade-in their old cars for a brand-new Volvo.

The Volvo XC90 offers customers a visually striking premium quality seven-seat SUV with world-leading safety features, new powertrain technologies, an unrivalled combination of power and fuel efficiency and a superlative interior finish. The vehicle is the perfect combination of luxury, space, versatility,

efficiency and safety and is a pure pleasure to drive. Like its sibling XC90, the S90 carries the proud and confident face of Volvo's design language, along with classic Volvo styling cues. Key features include the iconic "Thor's Hammer" LED headlight design, the new grille and Volvo Iron Mark and the expressive use of the Volvo wordmark on the rear. The new Volvo S90 is the executive saloon redefined.



The new Mercedes-AMG

A 45 S 4MATIC+ and CLA 45 S 4MATIC+



The super-sportscars in the compact class

Dubai, UAE. Outstanding performance, ultimate driving dynamics, expressive design the new Mercedes-AMG compact CLA 45 S 4MATIC+/ A 45 S 4MATIC+ sports cars (combined fuel consumption 8.4-8.3 l/100 km; combined CO2 emissions 192-189 g/km) reassert their leading positions in their segments. They seamlessly continue the success story of their predecessors, while setting numerous new standards.

Available in two output and torque variants, the completely newly developed 2.0-litre engine is the world's most powerful turbocharged four-cylinder engine in manufactured for series production. The S-variant with 310 kW (421 hp) jostles with considerably higher vehicle classes. Perfect sequences in all driving situations, and fast gearshifts measured in milliseconds, are guaranteed by the new AMG SPEEDSHIFT DCT-8G dual-clutch transmission with eight gears.

The active, fully-variable AMG Performance 4MATIC+ all-wheel drive distributes the power to the rear axle wheel-selectively by AMG TORQUE CONTROL – for top traction and the spectacular Drift mode. This is made possible by a new rear axle differential featuring two multidisc clutches – one for

With its new compact sports models Mercedes-AMG is demonstrating its high competence in development once again: "We have completely redesigned our "45"











models – from the engine and transmission through the chassis, the elaborately constructed drivetrain to the body structure and of course the design itself – all with one goal: to raise vehicle dynamics and the sporty driving experience to a level previously unimaginable in the compact class. With the presentation of this, our most powerful and most dynamic compact sports car, we are also reinforcing the significance of this segment for our growth strategy", says Tobias Moers, Chairman of the Management Board of Mercedes-AMG GmbH.

Exterior design: AMG family membership even more apparent

The new Mercedes-AMG A 45 S 4MATIC+ and CLA 45 S 4MATIC+ models are even more distinctive than their predecessors. The exterior conveys sheer driving pleasure even at standstill. For the first time, the compact class now also features the AMG-specific radiator grille with a wider lower contour and twelve vertical louvres – as a clear indicator of AMG

Performance family membership. At the same time, the pronounced "shark nose", the slim, deeply contoured headlamps and the flat, aerodynamically favourable bonnet with powerdomes visually lower the front section to create the impression of extremely dynamic forward thrust.

Drive system: new turbocharged four-cylinder with ample power

With an output of up to 310 kW (421 hp), the completely newly developed 2.0-litre engine is the world's most powerful turbocharged four-cylinder manufactured for series production. Mercedes-AMG has bettered the output of the preceding engine by 30 kW(40 hp). Maximum torque has also increased from 475 to up to 500 newton metres. With an output per litre of up to 155 kW (211 hp), the new Mercedes-AMG high-performance turbo engine even ranks ahead of many well-known super-sports car engines. The new, highly efficient powerpack is produced on

an innovative production line in Affalterbach, on the "One Man, One Engine" principle.

Digital and smart hand assembly: "One man, one engine"

The new engine is entirely assembled by hand. To this end a completely newly designed production line was constructed in the AMG engine manufactory in Affalterbach, where Mercedes-AMG has raised the "One Man, One Engine" principle and Industry 4.0 processes to an innovative level reflecting the latest findings in ergonomics, material flows, quality assurance, sustainability and efficiency. On the road to implementing Industry 4.0, AMG's hand assembly operation likewise follows the vision of "smart production".

This excels with maximum flexibility, and is transparent and highly efficient. It safeguards and improves the quality of the engines and production processes using innovative and digital technologies.

Six driving modes: vehicle characteristics with wide spread

The six AMG DYNAMIC SELECT driving modes "Slippery", "Comfort", "Sport", "Sport +", "Individual" and "RACE" allow a wide spread of vehicle characteristics, from comfortable to dynamic. Numerous relevant parameters are modified:

- Powertrain: accelerator characteristics, shift times and timing, sound characteristics with the options of Reduced, Moderate, Sport or Dynamic
- Transmission: automatic or manual
- AMG DYNAMICS: Agility functions such as allwheel control, steering characteristics and additional ESP® functions in Basic, Advanced, Pro or Master versions
- Exhaust system: Sound and nature of the sound functions, Balanced or Powerful
- Chassis (with optional AMG RIDE CONTROL suspension): in Comfort, Sport, Sport+ The individual drive programs offer an individual driving experience, precisely tailored to different driving conditions and driver requirements.
- "Slippery": Optimum adaptation to suit slippery and icy road surface conditions, with reduced power requirement and flat torque curve. Smooth gear



changes and earlier upshifting support the driving impression characterised by stability.

• "Comfort": comfortable and fuel-efficient driving,



e.g. thanks to very early upshifts. Suspension and steering are set up for an emphasis on comfort. In addition, the ECO start/stop function is active here.

- "Sport": sporty characteristics thanks to a more agile response to the driver's accelerator pedal input, shorter shift times, earlier downshifts and significantly more emotive gearshifts owing to double de-clutching. A more dynamic suspension and steering set-up.
- "Sport+": extremely sporty characteristics thanks to an even more agile throttle response, increased acoustic emphasis on double de-clutching during downshifts as well as selective torque control on upshifts with cylinder suppression for optimal shift times. Increased idle speed for faster pulling away. An even more dynamic set-up for suspension, steering and drivetrain.
- "RACE": For highly dynamic driving on enclosed racetracks. In this program, all of the parameters are configured for maximum performance.
- "Individual": Makes it possible to select and store individual parameters according to personal preferences. In addition, the gliding function is available in the "Reduced" and "Moderate" drive settings.

CarBook

THE NEW LAND ROVER DEFENDER

An icon reimagined for the 21st century



This is the new Land Rover Defender. An icon reimagined for the 21st century, it is clever, capable and safe for all the family, and in a category of its own.

New Defender is built for adventurous hearts and curious minds, for those who know the value of community and strive to make a difference.

The unmistakable silhouette is familiar yet new. It looks tough and is tough but designed with purpose and engineered to excite. Iconic in name, shape and

capability, Defender can be personalised to allow

owners to make the most of their world.

Across seven decades of pioneering innovation, Land
Rovers have earned a unique place in the hearts of
explorers, humanitarian agencies and adventurous
families across the world. Proven in the harshest
environments on earth, the new Defender maintains
this bloodline.

Beside the peerless luxury and refinement of the Range Rover family and the highly capable and versatile Discovery SUVs, new Defender completes the Land Rover dynasty. The 110 is just the start for this family of the most capable and durable 4x4s in the world. It will be swiftly followed by a compact, short wheelbase 90, before a pair of practical commercial models join the line-up in 2020.

Driven by a passion and respect for the original, new Defender delivers transformational breadth of capability. Advanced all-terrain technologies redefine adventure for the 21st century, remaining true to the pioneering spirit that has been a Land Rover hallmark

for 71 years.

Emotionally charged design

A distinctive silhouette makes the new Defender instantly recognisable, with minimal front and rear overhangs providing excellent approach and departure angles. Land Rover's designers re-envisioned familiar Defender trademarks for the 21st century, giving the new 4x4 a purposeful upright stance and Alpine light windows in the roof, while retaining the side-hinged rear tailgate and externally-mounted spare wheel that make the original so identifiable.

Gerry McGovern, Chief Design Officer, Land Rover, said: "The new Defender is respectful of its past but is not harnessed by it. This is a new Defender for a New Age. Its unique personality is accentuated by its distinctive silhouette and optimum proportions, which make it both highly desirable and seriously capable – a visually compelling 4x4 that wears its design and engineering integrity with uncompromised commitment."

The stripped-back personality of the original Defender has been embraced inside, where structural elements and fixings usually hidden from view have been exposed, with the emphasis on simplicity and practicality. Innovative features include a dash-

mounted gear shifter to accommodate an optional central front 'jump' seat, which provides three-abreast seating across the front like early Land Rovers.

As a result, the Defender 110 offers five, six or 5+2 seating configurations, with a loadspace behind the second-row seats of up to 1,075 litres, and as much as 2,380-litres when the second row is folded.

The Defender 90 will be able to accommodate six occupants in a vehicle the length of a compact family

User-friendly features include practical touches and advanced technological innovations. Durable rubberised flooring shrugs off the spills of daily adventures and once-in-a-lifetime expeditions, providing a brush or wipe clean interior. An optional full-length Folding Fabric Roof provides an open-top feel. It also allows passengers in the second-row seats of the Defender 110 to stand up when parked to provide the full safari experience**.

The definition of durability

Land Rover's new purpose-engineered D7x (for extreme) architecture is based on a lightweight aluminium monocoque construction to create the stiffest body structure Land Rover has ever produced. It is three times stiffer than traditional body-on-frame

designs, providing perfect foundations for the fully independent air or coil sprung suspension and supports the latest electrified powertrains.

The new Defender has been through more than 62,000 tests for engineering sign-off, while the chassis and body architecture have been engineered to withstand Land Rover's Extreme Event Test procedure – repeated and sustained impacts, above and beyond the normal standard for SUV and passenger cars. During development testing, prototype models have covered millions of kilometres across some of the harshest environments on earth, ranging from the 50-degree heat of the desert and sub 40-degree cold of the Arctic to altitudes of 10,000ft in the Rocky Mountains in Colorado.

A world-class expert off and onroad

A transformational breadth of capability sets new
Defender apart. Permanent all-wheel drive and a
twin-speed automatic gearbox, centre differential and
optional Active Locking Rear Differential ensure it has
all the hardware required to excel in the soft sand of the
desert, the freezing tundra of the arctic and everywhere
in between.

Configurable Terrain Response debuts on new



Defender, allowing experienced off-roaders to finetune individual vehicle settings to perfectly suit the conditions, while inexperienced drivers can let the system detect the most appropriate vehicle settings for the terrain, using the intelligent Auto function.

The new body architecture provides ground clearance of 291mm and world-class off-road geometry, giving the 110 approach, breakover and departure angles of 38, 28 and 40 degrees (Off Road height) respectively. Its maximum wading depth of 900mm is supported by a new Wade programme in the Terrain Response 2 system, which ensures drivers can ford deep water with complete confidence.

On dry land, Land Rover's advanced ClearSight Ground View technology helps drivers take full

advantage of Defender's all-conquering capability by showing the area usually hidden by the bonnet, directly ahead of the front wheels, on the central touchscreen. As a result, the new Defender redefines breadth of capability, raising the threshold for both off-road ruggedness and on-road comfort. It can negotiate crowded city streets as effortlessly as climbing mountains, crossing deserts and withstanding freezing temperatures. Its carefully honed handling delivers both a rewarding drive and first-class long-haul comfort across all terrains.

Power and efficiency a

A choice of advanced petrol and cleaner diesel engines ensure new Defender has the power, control and efficiency for any environment, while a Plug-in Hybrid Electric Vehicle (PHEV) powertrain will join the range next year providing the prospect of silent EV-only

At launch, the petrol line-up comprises a four-cylinder P300 and a powerful six-cylinder P400, featuring efficient Mild Hybrid Electric Vehicle technology. Alternatively, customers can choose from a pair of four-cylinder diesels – the D200 and powerful D240 – both of which deliver fuel economy of 37.2mpg (7.6 1/100km) and CO2 emissions of 199g/km (NEDC equivalent).

Innovative engineering solutions support the efficiency drive, including a flat underbody which both optimises aerodynamic performance (as low as 0.38Cd) and protecting the vehicle's underbody.





BMW Concept 4



The 68th IAA Cars show in Frankfurt is the venue for the unveiling of the BMW Concept 4 – a futurefocused interpretation of the BMW Group's enduring DNA that represents the magic of coupe driving at its most exciting.

"The BMW Concept 4 embodies the aesthetic essence of the BMW brand. It combines perfect proportions with a clear and precise design," says Adrian van Hooydonk, Senior Vice President BMW Group

The front end – the new face of the 4 Series range.

The BMW Concept 4 hovers close to the road. The distinctive kidney grille, remarkable air intakes and prominently sculpted surfaces provide an immediate advert for the car's performance and its engaging character as a driver's car.

Grabbing the attention at the heart of the front end is the vertical kidney grille. "The kidney grille has always been a signature feature of BMW cars," reflects Domagoj Dukec, Head of BMW Design. "The BMW Concept 4 presents a confident and classy take on this iconic feature. At the same time, the BMW Concept 4 offers a look ahead to the expressive face of the 4 Series range." The vertically oriented grille fits seamlessly into both the proportions of the front end and BMW's illustrious past. Indeed, its form and design reference legendary classics such as the BMW 328 or the BMW 3.0 CSi and therefore shine the spotlight on the BMW brand's long and successful history as a maker of fine

The kidney grille is also home to some elaborate details. The grating itself contains horizontal trim elements with a faceted cut which create a neat contrast against the sporty design of the front end and lend depth and exclusivity to the grille. Look closer and another highlight is revealed: the intricate grating within the kidneys and air intakes, which is made up of an array of small "number 4s" joined together.

The slim and focused twin headlights are slightly

angled and team up with the kidney grille to lend the front end a modern look with a strong identity. The striking LED light elements have no glass cover; instead they are worked into the body like threedimensional sculptures. This allows them to bring an even greater sense of modernity and technical sophistication to the front end. The sharply contoured bonnet extends the lines of the front end through powerful volumes and edging of precision. The bold surfacing frames the kidney grille like a gemstone.

The side – the aesthetic essence of a modern BMW coupe.

The BMW Concept 4 displays BMW's signature proportions at their most modern form yet. The stretched bonnet, long wheelbase, flowing roofline and short overhangs create a modern, elegant and dynamic coupe outline and send energy coursing through the low-slung body even while it's standing still. Within the silhouette, the ultra-pure surfaces of the new BMW Concept 4 form a powerful main body. The interplay

of tautly chiselled volumes and a small number of extremely precise contours create a rare sense of emotion and dynamism. The expressive exterior paint tone Forbidden Red accentuates the car's surfaces particularly vividly; those in the light at any one time project a rich, glossy red, while shade creates an almost black effect and a striking contrast. The interaction of contours and volumes therefore exude a dramatic sense of radiance and depth.

The athletic body incorporates a slender glasshouse with a narrow window aperture, which further emphasises the dynamism of the side. The long, sweeping roofline flows smoothly into the boot lid, giving the rear end a high-class and sporty aesthetic. The bulging rear wheel arches lend visual expression to the power coursing through the rear wheels and accentuate the muscular shoulders higher up. The slender area above the front wheels, meanwhile, strikes a neat dynamic balance. Its tempered volumes enhance visual agility and lightness. Together, the two sets of wheel arches give the new BMW Concept 4 a powerful and confident stance.

A horizontal main line between the wheel arches takes the place of a classical contour line in shaping the character of the flanks. It runs relative low down along the side of the car, creating a low visual centre of gravity. Further down, another character line rises

dynamically from the rear of the front wheels towards the boot lid, bringing extra agility into the mix.

Sophisticated details at second glance.

Look at the BMW Concept 4 more closely and further classy details are revealed. The minimalist, two-section exterior mirrors emerge harmoniously out of the weather strips. The lower section in polished aluminium extends the weather strip in a flowing movement and becomes a mirror surface, while the aerodynamically optimised rear section is in body colour and rounds off the design of the mirrors in dynamic fashion. On the inside of the mirrors is an apparently floating BMW logo, which only comes to light on more detailed inspection.

The light-alloy wheels of the BMW Concept 4 are equally rich in detail. The 21-inch items represent a heavily "dished" take on the sporty five-spoke design, drawing the eye into their centre-points. The fronts of the intricate spokes have a high-polished finish, while the set-back surfaces are finely ground to create a slightly darker effect and give the rim design a sophisticated contrast.

The rear end – clear, eye-catching, dynamic.

The rear of the BMW Concept 4 sits low over the road, as befits a sporty car. The character line transitions

from the flanks into the rear end in a broad, horizontal sweep and visually reduces the coupe's height off the ground even further. Picking up where the front end left off, generously sized and clear surfaces with only a small number of lines are the dominant theme. Purism runs through every element of the rear end and creates a prominent tail graphic. The sporty glasshouse is indented into the powerful body, allowing it to chisel broad and athletic shoulders into the BMW Concept 4's design. The vertical air outlets frame the lower section of the rear and emphasise the car's broad stance. The LED rear lights consist of a single fibre-optic element, which lends the familiar BMW L shape a cutting-edge "heartbeat" graphic and dispenses with a glass cover. Their contours underscore the sportingly horizontal focus of the rear end and accentuate its brawny stance on the road. The striking diffuser integrated into the muscular rear apron sets the seal on the car's rear-end design. Its vertical fins break up the clean surfaces of the car's tail to send a statement of fine sporting pedigree, while the High-gloss Black paint finish with metallic particles lend it additional visual impact. The pair of exhaust tailpipes highlight a new and dynamic free-form, a detail of the BMW Concept 4's design that expresses what this car is all about: the modern essence of a coupe oozing aesthetic appeal



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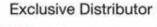
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Tissot Seastar 1000 Quartz Chrono

Aquatic Elegance



Stylish above and below the water

Both lovers of water sports and those who prefer to stay on dry land will be thrilled to hear the suavely sporty Tissot Seastar 1000 Quartz Chrono is now available as a chronograph, adding a plethora of useful functions to what has quickly become a popular watch. With a host of useful features, it is already an essential in the water, thanks to its ability to handle pressure up to 30 bar (1000ft) and its accessible quartz movement which promises unfailing reliability.

Technically accomplished

The impressive qualities don't stop there, with the

functionality of the Tissot Seastar 1000 Quartz Chrono reflected in the design itself. Luminescent hands make for easy readability while the minutes until 20 are marked on the face, when it subsequently becomes every five minutes, in a scale that is typical and helpful for divers. A screwed down case and crown prevent the watch becoming damaged, whatever the wearer's underwater adventures. The ocean itself is nodded to in the watch's masculine design, with a subtle sea horse engraved on the backcase hinting at underwater adventures, as the face itself is a deep blue hue, reflecting the ocean's mysterious depths.

Features

Chronograph Quartz movement Screw-down crown, caseback and pushers Anticlockwise aluminum rotating bezel Scratch-resistant sapphire crystal 316L stainless steel engraved case Water-resistant to 30 bar (300 m / 1000 ft) 316L stainless steel bracelet with folding clasp and safety and diver extension or rubber strap with standard buckle Diameter:45.5mm

LEGACY MACHINE

SPLIT ESCAPEMENT



There is one technical constant that defines every single watch in the MB&F Legacy Machine collection. Functions may vary, and different complications come to the fore in each edition, but the suspended balance wheel remains literally and metaphorically above everything else. In Legacy Machine Split Escapement, this feature is not only highlighted, but raised to another level of achievement.

Just below the highest point of the domed dial crystal, the balance of LM SE beats at a sedate, traditional 2.5Hz / 18,000bph. What is rather less traditional is its construction. Unlike most of the other suspended balances in the Legacy Machine collection — indeed, unlike any other balance outside of MB&F — the balance of LM Split Escapement seems to oscillate on its own, without any visible intake of energy. The essential remaining parts of the escapement, which provide the driving impulse – anchor and escape wheel – are concealed on the opposite side of the

movement, almost 12 mm below; hence the name 'Split Escapement'.

Under the balance, the triple-dial design of LM SE gives the time at 12 o'clock, the power reserve indication at 4 o'clock and the date at 8 o'clock. The date can be quickly and easily adjusted thanks to a push-button on the side of the case, next to the date dial. Other design features are natural evolutions of those found in previous Legacy Machines, such as the organically arched balance bridge found in the LM Perpetual. The white gold launch editions of LM SE feature the micro-textured "frosted" finish that is so closely associated with antique pocket watches of the 18th and 19th century; this traditional technique was presented by MB&F for the first time in the LM 101 'Frost' editions.

Antique watches featuring a frosted finish used acid baths to achieve this effect, but modern methods of replicating a frosted finish involves manually

burnishing a metal surface with a wire brush. LM Split Escapement is a celebration of this technique, which is executed completely by hand for all 72 pieces of the

The LM Split Escapement was first launched in 2017 in four white gold "frosted" editions, each limited to

- Blue frosted finish paired with rhodium-plated
- Ruthenium frosting with similarly darkened
- Red gold frosting and movement;
- Yellow-gold frosting and movement finish; In 2019, MB&F introduces a new limited edition of 33 pieces in grade 5 titanium, with a spectacular green CVD-treated dial. The sun-ray dial finish catches the light from alternating angles, constantly changing between blue and green hues – adding a more contemporary edition to the series.

AUDEMARS PIGUET

LAUNCHES A NEW ROYAL OAK PERPETUAL CALENDAR IN WHITE CERAMIC



With summer in full swing, Swiss Haute Horlogerie manufacturer Audemars Piguet enriches its collection of Royal Oak Perpetual Calendars with a new handfinished white ceramic model. This new white ceramic Royal Oak Perpetual Calendar follows on from a previously introduced black version, highly praised for being durable yet light, sporty and elegant. Challenging to master but virtually unscratchable, white ceramic resists high temperatures, thermal shocks and ageing. Numerous operations demanding patience and skill are required to achieve a uniform, compact and ultra-hard material that can be machined and hand finished. The watch's white ceramic bracelet, like the case, has been beautifully finished with alternating satin-brushed

and polished surfaces and is complemented by a titanium AP folding clasp.

The timepiece is endowed with a blue "Grande Tapisserie" dial, enriched with silver-toned day, date and month counters. The dial also features the astronomical moon indication at 6 o'clock, the week of the year transferred on the blue inner bezel and the leap year indication – pioneered by Audemars Piguet in 1955 – at 12 o'clock. White gold applied hour-markers and Royal Oak hands with luminescent coating complement the patterned dial.

Housed in a 41 mm case, the watch's selfwinding calibre is fully visible through the glareproofed sapphire crystal caseback.











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