BMW at the 15th Auto China Beijing 2018.
Long version.

1. Electric mobility arrives at the core of the BMW brand: The BMW Concept iX3.

The BMW Group is pushing ahead with its electrification strategy by extending the reach of its all-electric mobility offering to the company's core brands. The BMW Concept iX3 – presented for the first time at the Auto China 2018 show in Beijing – offers a look ahead to the expansion of the model line-up in this area. The first model from the BMW brand to be driven purely by electric power will be a fully-fledged Sports Activity Vehicle (SAV) – and without compromises when it comes to functionality and comfort.

The BMW Concept iX3 underscores the BMW Group's resolve to further strengthen its leading position in the field of electric mobility. The expansion of the company's range of vehicles offering locally emission-free mobility is one of the central spheres of activity defined by the Automated, Connected, Electrified and Services (ACES) technological fields, in which the company is driving forward the transformation of the mobility sector as part of its NUMBER ONE > NEXT strategy. The future-proof, scalable modular system in which the BMW iX3 concept vehicle plays a central role, is now taking shape under the umbrella term "iNext" and serves as an enabler for the BMW Group as a whole.

Among the innovations showcased in the BMW Concept iX3 is the fifth generation of BMW eDrive technology. A key benefit of this electric drive technology of the future is the grouping together of the electric motor, transmission and power electronics within a new, separate electric drive component. Plus, the fifth-generation electric drive system also includes new and more powerful batteries. This fresh package of technology brings considerable advances in terms of performance characteristics, operating range, weight, packaging space and flexibility – and will be making its debut in the purely electrically-driven SAV.

The unparalleled technological expertise of BMW i has also played a prominent role in the development of the fifth-generation electric drive system, providing further evidence of BMW i as a nerve centre for sustainable mobility. The transfer of the drive system technology originally developed for BMW i cars into vehicles from the BMW Group's core brands is entering a new dimension here.

Fully electrified vehicles of the core brand will in future bear a BMW i brand logo. This is visible in the concept vehicle both in the side and in the rear. BMW eDrive technology today already is part of the plug-in hybrid drive system employed by the BMW iPerformance models and MINI Cooper S E Countryman ALL4. In the BMW Concept iX3, the next, highly integrated development stage of this technology delivers all-electric mobility. The future series-production version of the electrically powered SAV will therefore also benefit from the technological basis underpinning the powertrain of the BMW iNext, due to be presented in 2021.

Flexible architecture enables sustainable mobility.
With the world premiere of the BMW Concept iX3, the BMW Group is opening a new chapter in its electrification strategy. The future will see the flexible, further developed vehicle architectures accommodating all types of front-wheel, rear-wheel and all-wheel drive. This will pave the way for models from all the company's brands to be equipped with different drive system variants. And that means a pure combustion engine, plug-in hybrid drive system or battery-electric solution can be integrated into any model, as desired.

The launch of the fifth-generation electric drive system technology once again makes integration into different vehicle architectures significantly easier. The individual components of this new BMW eDrive technology stand out with their lower weight, scalability and extremely compact construction. In order to exploit this potential, the vehicle architectures of current and future models from all the company's brands will allow for the integration of different drive system variants. In this way, the BMW Group will be able to meet the ever increasing need for electrified vehicles with a wealth of different variants tailored to meet specific demand. The BMW X3, on which the concept vehicle is based, is one of the first models whose architecture demonstrates this flexibility. In addition, the BMW Concept iX3 features a specially developed rear axle subframe and specific chassis integration.

The BMW Brilliance Automotive joint venture will produce the future series-production version of the BMW Concept iX3 in Shenyang, China.

BMW Concept iX3 with electric motor developing more than 200 kW/270 hp and a WLTP range of more than 400 kilometres (249 miles).

The BMW Concept iX3 represents another milestone on the road to locally emission-free driving under the BMW Group's electrification strategy. And so a Sports Activity Vehicle (SAV) once again blazes a trail for a new and groundbreaking form of BMW's fabled driving pleasure. The current BMW X5 xDrive40e iPerformance (petrol consumption combined: 3.4 – 3.3 l/100 km [83.1 – 85.6 mpg imp]; electric power consumption combined: 15.4 – 15.3 kWh/100 km; CO_2 emissions combined: 78 – 77 g/km) made its debut in 2015 as the BMW core brand's first plug-in hybrid model. And the BMW ActiveHybrid X6 presented in 2009 was the world's first Sports Activity Coupe with a full-hybrid drive system.

The BMW Concept iX3 previews the fusion of the multi-faceted driving pleasure for which BMW X models are renowned and a locally emission-free drive system. The version of the fifth-generation electric motor developed for the SAV generates maximum output of over 200 kW/270 hp. The likewise model-specific high-voltage battery has a net capacity of over 70 kWh, which is enough to give the electric SAV a range of up to 400 kilometres (249 miles) in the WLTP cycle.

Another feature of the high-voltage battery developed for the fifth generation of eDrive technology is its optimised charging capability. The energy storage system has a newly developed Charging Control Unit and is designed to be hooked up to fast-charging stations generating up to 150 kW. The high-voltage battery can be charged in just 30 minutes from one of these stations.

Electric mobility also means differentiation in design. At the front end of the Concept iX3, the kidney grille and brand logo identify the car as a member of the BMW i family. The kidneys with blue accenting adopt the BMW i brand look showcased in the BMW i Vision Dynamics, and the closed-off area within the kidneys reduces drag, providing aerodynamic benefits.

As well as the closed-off grille with familiar BMW i car graphic and BMW i Blue trim around the kidneys, identifying features of the BMW Concept iX3 include BMW i Blue accents around the brand logo at the front and along the side skirts, and a diffuser element in the same colour integrated in the rear apron. These styling cues provide a striking contrast against the Moonstone Silver matt exterior paint finish. The concept study is also fitted with light-alloy wheels in an aerodynamically optimised design.

Alongside the world premiere of the BMW Concept iX3 and the BMW i Vision Dynamics study also on display in Beijing, the BMW Group is also highlighting the spectrum of design differentiation between the BMW and BMW i brands. The styling of the BMW i Vision Dynamics is characterised by the pioneering design language developed exclusively for BMW i models. The signature looks of BMW i cars will also mark out future models from the brand.
This study of a first all-electric model from BMW is clearly defined by the robust and sophisticated all-round character of an SAV, which remains unaffected by the presence of a locally emission-free drive system under the skin. The electric drive system will be visible through the design elements from the BMW i design language in the exterior design mentioned above.

2. A new star for the compact high-performance sports car world: The BMW M2 Competition.

With the new BMW M2 Competition (fuel consumption combined, with six-speed manual gearbox: 10.0 – 9.9 l/100 km [28.3 – 28.5 mpg imp]; CO_2 emissions combined: 228 – 225 g/km*; with optional M Double Clutch Transmission (M DCT): 9.2 l/100 km [30.7 mpg imp]; CO_2 emissions: 210 – 209 g/km)*, BMW M GmbH is setting fresh benchmarks in the compact high-performance sports car segment and honing the character of the BMW M2 Coupe to striking effect once again.

New engine with 302 kW/410 hp.
The centrepiece of the new BMW M2 Competition is its new engine, based on the power unit from the BMW M3 and BMW M4. The twin-turbocharged six-cylinder in-line engine with M TwinPower Turbo technology delivers 302 kW/410 hp between 5,250 and 7,000 rpm and puts peak torque of 550 Nm (405 lb-ft) on tap between 2,350 and 5,200 rpm. The power unit boasts a huge appetite for revs for a turbocharged engine, as well as linear power delivery and a strong wave of torque across a broad rev range. A twin-tailpipe exhaust system with flap control creates an unmistakeable M soundtrack, while the M TwinPower Turbo technology ensures outstanding efficiency. In the relevant EU countries, the BMW M2 Competition also boasts a gasoline particulate filter (GPF) to further reduce pollution from particulates.

The new BMW M2 Competition sprints from a standstill to 100 km/h (62 mph) in 4.2 seconds with M DCT or 4.4 seconds with the six-speed manual gearbox fitted. Top speed is electronically limited to 250 km/h (155 mph), although the M Driver's Package pushes this figures up to 280 km/h (174 mph) – 10 km/h (6.2 mph) beyond the reach of the standard BMW M2 Coupe. Fuel consumption figures are also noteworthy: with the six-speed manual gearbox, combined fuel consumption is 10.0 – 9.9 l/100 km [28.3 – 28.5 mpg imp] and combined CO_2 emissions come in at 228 – 225 g/km*. If the optional M Double Clutch Transmission (M DCT) is specified, these numbers improve further to 9.2 l/100 km [30.7 mpg imp] and 210 – 209 g/km.*

The engine's cleverly designed oil supply system has been lifted directly from a racing car and is joined by a modified version of the cooling system from the BMW M4 with Competition Package. And so the BMW M2 Competition includes race-ready variants of the oil supply and cooling systems that have proved their mettle on the track. An enlarged BMW kidney grille and a new

* Fuel consumption figures are provisional (in some cases), based on the EU test cycle and may vary depending on the tyre format specified.

front apron with increased air through-flow flag up the presence of this improved cooling system from the outside. The grille is painted black as part of its high-gloss Shadow Line finish. This is also the case for the side gills on the front wings, and for the newly designed quartet of tailpipes in the twin exhaust system, which features two adjustable flaps. A dark M Competition Badge graces the rear end of the car, while new and aerodynamically optimised twin-stalk M exterior mirrors are further characteristic design elements of the new BMW M2 Competition.

The BMW M engineers have likewise adjusted the dynamic responses of the BMW M2 Competition to take its increased performance into account. The eye-catching CFRP strut brace in the engine compartment from the BMW M3/M4 brings extra rigidity to the front structure and further enhances steering precision. The different settings for the Electric Power Steering, the Active M Differential and the Dynamic Stability Control (DSC) system have also been modified.

Direct menu control buttons can be used to adjust settings.
The BMW M2 now also comes with direct menu control buttons in the centre console that give the driver direct access to different modes and settings for the engine, steering and Drivelogic (if M DCT is specified). The various configurations can be combined with one another as the driver prefers and stored under the M1 and M2 buttons on the steering wheel. Standard equipment includes the now red start button, Adaptive LED Headlights and Park Distance Control (PDC) at both front and rear.

Fascinating new options.
The new, optional M sports seats are a real functional and visual highlight. The bucket-style shape borrows heavily from motor sport and provides drivers with optimum support in any situation, while the seat's headrest is integrated into its backrest. The backrest also features an illuminated M2 logo at shoulder height. The black leather upholstery boasts design perforations (in blue or orange) in the seat surface and backrest. The standard sports seats are also available with black leather upholstery, optionally featuring contrast stitching in blue or orange.

The many years of experience in motor sport racked up by BMW M GmbH are reflected in the addition of new M sport brakes to the options list. These provide exceptional braking performance thanks to larger brake discs (front axle: 400 mm diameter, rear axle: 380 mm diameter) and grey painted brake callipers (front axle: six-piston fixed callipers, rear axle: four-piston fixed callipers). Customers can now plump for optional 19-inch forged wheels (front axle: 9J x 19, rear axle: 10J x 19) in new Y-spoke design. And the new Hockenheim Silver metallic paint shade is now also exclusively available for the BMW M2 Competition.

3. A new benchmark in dynamics, luxury and innovation:
The new BMW X3, made in China.

The premiere of the new, made-in-China BMW X3 is one of the highlights of the Auto China 2018 show in Beijing. Originally launched in 2003, the X3 is a pioneer in the global mid-size premium SUV segment. Its outstanding performance has seen the X3 notch up more than 1.5 million customers over the last 15 years. Now BMW is introducing the third generation of the model – and with it local production of the BMW X3 in China. The new BMW X3 built for the Chinese market by BMW Brilliance Automotive impresses with significant improvements in terms of design, comfort, intelligent connectivity, driving pleasure and quality, and in so doing redefines the Sports Activity Vehicle for the premium mid-size class.

The progressive concept underpinning the new BMW X3 combines intelligent lightweight design, rear-wheel/all-wheel drive, even weight distribution and a low centre of gravity, and provides the ideal environment for the latest technological applications. The bonnet, front side panels and front doors for the version of the new BMW X3 produced in China (among other sections of the car) are also made from aluminium. Generous use has likewise been made of hot-stamped, high-strength steel. Body rigidity is up by 30 per cent over the predecessor model, while the weight of the body has been reduced by up to 55 kilograms. Added to which, the new BMW X3 includes a host of innovative technologies and premium features from higher classes of car and therefore sets new standards in its segment.

An ideal model range for demanding customers in China.
As the new BMW X3 will now also be produced in China, the requirements of the Chinese market represented a major factor in its development.
The aesthetic preferences of Chinese customers when it comes to exterior and interior design were given extensive consideration. And customers will also be greeted by numerous innovative technologies on board.
The wheelbase of the new BMW X3 is 54 millimetres longer than that of its predecessor, the rear seats in the model produced by BMW Brilliance Automotive have been developed specifically for Chinese customers and a wide array of comfort-enhancing equipment items are available to order that have never been offered in this segment before. The aim with all of the new features and additions is to offer Chinese customers an authentic and exclusive model tailored precisely to the local market and exuding driving pleasure and consummate luxury.

The new BMW X3 xDrive25i and new BMW X3 xDrive30i will be available from launch in the Chinese market. Both models will be offered in Luxury Line specification and with the M Sport package. The new BMW X3 is not only an all-new model, it also sets fresh standards with its varied configurations and classiness. Standard specification for the China-built model includes the Welcome Light Carpet, the iDrive control system with 10.25-inch touchscreen, the Voice Assistant (which understands instructions given using natural, everyday language), automatic tailgate operation, the largest panoramic glass roof in its segment, a particulate filter (PM 2.5) and comfort rear seats developed specifically for Chinese customers. Innovative premium characteristics and high-quality appointments make the new model a more attractive and competitive proposition in the Chinese market. Among the target group of independent, confident and responsible high achievers, the new BMW X3 ticks all the boxes when it comes to comfort and modern living.

Unbeatable comfort in classic BMW X design.
The exterior of the new BMW X3 sends out a compelling statement with its rugged and sporting character, which oozes power and strength in every way. The front end is now more visually arresting, the larger kidney grille adopting an “inverted trapezium” look and the LED headlights displaying a striking new design. The car also cuts a muscular figure when viewed from the side, thanks to its dynamic proportions, prominent shoulderline, robust, hexagonal wheel arches and Hofmeister kink. The rear end likewise contains fresh design elements, in the form of chunky LED lights and twin exhaust tailpipes. In order to satisfy customers’ varying preferences and individual tastes, the new BMW X3 can be ordered both in Luxury Line specification and with the M Sport package. The different design and equipment features included in these two options accentuate the model’s elegant or dynamic character, as desired.

The new BMW X3 impresses with its exceptional interior design, which offers irreproachable comfort and perceived quality. The cockpit has a driver-focused design, the menu items in the Control Display take the form of large, individually configurable tiles and the instrument panel in Sensatec with contrast stitching emphasises the excellent workmanship on display. The electroplated applications of selected controls offer unimpeachable haptic properties, chrome X logos catch the eye in various areas of the car and other items of optional equipment include seats in Vernasca leather with active ventilation, ambient lighting in 11 colour variants and fragrancing courtesy of the Ambient Air package. By optimising the user’s experience of comfort in this way, BMW is once again highlighting its awareness of Chinese customers’ requirements.

Innovative technology delivering seamless connectivity.
The new BMW X3 integrates the latest developments from BMW in intelligent connectivity. With a 12.3-inch screen for the instrument cluster, including special displays for the selectable driving modes, and the new BMW iDrive system with 10.25-inch screen, it has the largest combined display surface in the segment. Added to which, the new model offers five types of interface between the driver and vehicle: iDrive Controller, touch-sensitive buttons, touchscreen, gesture control and natural voice control. The operating system therefore adapts to customers' varying usage habits and ensures their interaction with the vehicle is an extremely positive experience.

The new BMW X3 takes on the functionality of a mobile device, linking up the people inside the car, the car itself and the outside world. Younger customers will enjoy an outstanding digital experience thanks to the WiFi hotspot – which can be used to hook up a maximum of three devices – and Wireless Apple CarPlay™. In addition, the Remote 3D View option is also integrated and enables live images of the vehicle and its surrounding area to be sent to the customer's smartphone. The BMW Display Key is making its debut in the BMW X family. And intelligent connectivity allows customers to contact the BMW Call Centre using the iDrive system or access an extensive range of additional services from their smartphone via the BMW Connected app.

Authentic driving pleasure in all road conditions.
The new BMW X3 represents an all-new development and convinces with classical features such as a long wheelbase, short front overhang and optimum 50:50 weight distribution. The increased rigidity of the body construction is a passport to more agile handling. And the new, precisely tuned suspension includes an adaptive damping system which lays on a sublime driving experience. Adaptive mode ensures the driver and passengers enjoy a comfortable and pleasant ride, whereby the vehicle settings are selected proactively – using a self-teaching system – in response to changing road conditions.

The further developed engines available for the BMW X3 are both more powerful and more efficient. Developing maximum output of 185 kW/252 hp and peak torque of 350 Nm (258 lb-ft), the BMW X3 xDrive30i accelerates from 0 to 100 km/h (62 mph) in 6.8 seconds. Its smooth, powerful engine links up as standard with an eight-speed Steptronic transmission. The BMW xDrive intelligent all-wheel-drive system has been extensively optimised; it is lighter than before and has an extremely compact construction. BMW xDrive enables fully variable distribution of drive power (from 0 to 100 per cent) between the front and rear axle. With a ground clearance of 216 millimetres, an unsurpassed approach angle of 25.7° and a fording depth of 0.5 metres, the

new BMW X3 also boasts excellent driving properties off the beaten track. All of which sends out a message of dependability and driving pleasure on any surface.

With the Personal Co-Pilot, the new BMW X3 also sets the pace in its segment when it comes to intelligent driving. This system incorporates most of BMW's innovative driving assistance systems. For example, the latest generation of the active cruise control system includes an integrated Lane Keeping Assistant and Traffic Jam Assistant, which can be activated in monotonous driving situations to ease the stress on the driver. Meanwhile, the evasion aid and Crossing traffic warning allow accidents to be avoided – or their consequences minimised – during a journey or when parking.

The new BMW X3 for the Chinese market will be built by BMW Brilliance Automotive at the Dadong plant in Shenyang. As the sixth BMW model to be produced in China, it marks another stage in the BMW Group's localisation strategy and represents a new springboard for the successful ongoing development of the BMW Brilliance joint venture.

4. Eye-catching athlete: The new BMW X4.

The all-new BMW X4, which is receiving its Asian premiere at the Auto China 2018 in Beijing makes its mark by delivering individuality, dynamism and innovation in far greater doses. It is here to write the next chapter in the success story of the first ever Sports Activity Coupe at the premium end of the mid-size class. Approximately 200,000 units have been sold around the world since the first-generation X4 was launched in 2014.

The all-new BMW X4 underscores its individual character with significantly enhanced driving dynamics, standout exterior design accentuating the car's sporting instincts, a further refined premium ambience in the interior, state-of-the-art driver assistance systems and leading-edge connectivity technologies. Added to which, the dynamic and extravagant aura of the Sports Activity Coupe is further highlighted by the addition of two BMW M Performance models to the line-up.

Design: dynamic proportions and athletic styling.
The exterior design of the all-new BMW X4 is a case study in muscular dynamics and commanding presence. Clean surfacing and high-class, modern accents headline this updated interpretation of the unmistakable X4 aesthetic. The X4 assumes the role of eye-catching athlete in the BMW X model family.

An increase of 81 millimetres in exterior length to 4,752 millimetres, 54 millimetres added to the wheelbase (now 2,864 millimetres) and an extra 37 millimetres of width (1,918 millimetres) lend the all-new BMW X4 dynamically stretched proportions. In the centre of the striking front end stands a large BMW kidney grille in three-dimensional look. Twin LED headlights with dynamic contours as well as horizontal fog lamps form a new interpretation of the familiar six-eyed face espoused by BMW X models.

The precise shoulderline – which takes in the door openers en route to the rear lights – and the character line between the wheel arches break up the surfaces of the car's flanks. This creates clearly defined haunches, which are additionally emphasised by the drawn-in glasshouse at the rear. The coupe-style roofline slides into the rear window with an elegant flourish before dipping down more steeply to the rear. Horizontal lines, the LED rear lights that project out from the car's body with their three-dimensional shaping, and the twin exhaust tailpipes (shared by all engine variants) magnify the width of the rear end.

Standalone design features and model-specific 19-inch light-alloy wheels are part of the specification for the xLine, M Sport X and M Sport model variants, which allow the design of the exterior and interior to be tailored to reflect personal tastes. And BMW X4 customers can now also choose from the BMW Individual range of options.

Interior: sporting character with a modern, premium feel.
The interior of the all-new BMW X4 exudes a modern, premium feel combined with eye-catching dynamism. The driver-focused layout of the cockpit, low instrument panel and slightly raised seating position all help to create a supremely assured driving experience. Redesigned sports seats with boldly contoured side bolsters and knee pads on the sides of the centre console add to the sense of sportiness.

Top-class materials, precise build quality and meticulously crafted details set the tone for the updated premium character of the all-new BMW X4.
The surfaces of the instrument panel and door panelling merge smoothly into one another, while the X logos embossed into the electroplated surfaces of the doors provide striking details. Further splashes of electroplated detailing, the new Vernasca leather upholstery and an instrument panel in Sensatec trim can all be found on the extended list of optional extras, as can three-zone automatic climate control, active seat ventilation, ambient lighting, as well as the Ambient Air package, the BMW Display Key and the generously dimensioned panoramic glass roof.

Large stowage trays, roomy door pockets, cupholders and various storage compartments are all testimony to the functional qualities of the all-new BMW X4. There are three full-size seats in the rear offering more legroom than before. Load space can be expanded from 525 to a maximum of 1,430 litres by folding down the sections of the rear backrest, with its standard 40:20:40 split. And the optional cargo function allows the backrest angle to be individually adjusted, too.

Driving experience: dynamic, efficient and versatile.

Customers will be able to choose from three petrol and four diesel engines from the launch of the all-new BMW X4 or shortly afterwards. The line-up is spearheaded by a duo of BMW M Performance models. The six-cylinder in-line petrol engine under the bonnet of the BMW X4 M40i (fuel consumption combined: 9.2 – 9.0 l/100 km [30.7 – 31.4 mpg imp]; CO_2 emissions combined: 213 – 209 g/km)* musters up maximum output of 265 kW/360 hp. The BMW X4 M40d (fuel consumption combined: 6.6 – 6.4 l/100 km [42.8 – 44.1 mpg imp]; CO_2 emissions combined: 173 – 170 g/km)* is powered by a 240 kW/326 hp straight-six diesel unit. The BMW X4 xDrive30d (fuel consumption combined: 6.2 – 5.9 l/100 km [45.6 – 47.9 mpg imp]; CO_2 emissions combined: 163 – 156 g/km)* likewise draws its drive power from a six-cylinder in-line diesel engine, this time with 195 kW/265 hp. generating 170 kW/231 hp in the BMW X4 xDrive25d (fuel consumption combined: 5.7 – 5.5 l/100 km [49.6 – 51.4 mpg imp]; CO_2 emissions combined: 149 – 145 g/km)* and 140 kW/190 hp in the BMW X4 xDrive20d (fuel consumption combined: 5.6 – 5.4 l/100 km [50.4 – 52.3 mpg imp]; CO_2 emissions combined: 149 – 142 g/km)*, as well as two four-cylinder petrol units with outputs of 185 kW/252 hp in the BMW X4 xDrive30i (fuel consumption combined: 7.3 – 7.2 l/100 km [38.7 – 39.2 mpg imp]; CO_2 emissions combined: 168 – 164 g/km)* and 135 kW/184 hp in the BMW X4 xDrive20i (fuel consumption combined: 7.3 – 7.1 l/100 km [38.7 – 39.8 mpg imp]; CO_2 emissions combined: 168 – 163 g/km)*. All model variants direct their engine's power to the road via an eight-speed Steptronic transmission with shift paddles on the steering wheel and BMW xDrive intelligent all-wheel drive as standard. Gasoline particulate filters for all petrol variants and SCR catalysts with AdBlue injection for the diesel models help to optimise emission control and SCR catalysts with AdBlue injection for the diesel models help to optimise emission control.

The all-new BMW X4 boasts a marked increase in agility combined with a high degree of ride comfort, courtesy of chassis technology that has been systematically refined and honed for the specific requirements of the Sports Activity Coupe and a centre of gravity lower than that of the BMW X3. Standard specification includes not only M Sport suspension and the Performance Control function, but also variable sport steering. M Sport brakes and Adaptive Suspension with electronically controlled dampers are both optionally available. The BMW M Performance models come equipped as standard with 20-inch light-alloy wheels, specially designed M Sport brakes and an M Sport differential, which generates a precise locking effect at the rear wheels to help the car power out of corners with refreshing dynamic élan.

* Provisional fuel consumption and emissions figures as per the EU test cycle, may vary depending on the tyre format specified.

An intelligent material mix has made it possible to bring about a substantial weight saving, not just in the chassis but also in the body's construction and numerous other components besides. The BMW EfficientLightweight measures make the new model up to 55 kilograms lighter than its predecessor (allowing for equipment variations). The aerodynamic properties of the Sports Activity Coupe have also been enhanced, as a result of which the all-new BMW X4 sets a new benchmark in its segment with a drag coefficient (Cd) of 0.30.

Expanded operating system, cutting-edge driver assistance systems and new BMW ConnectedDrive functions.

The iDrive display and operating system in the all-new BMW X4 includes a freestanding Control Display that is optionally available in a 10.25-inch version with touchscreen functionality. The voice control system has undergone further improvement and can now follow freely formulated instructions. BMW gesture control, the multifunctional instrument display and the latest generation of the BMW Head-Up Display are also available as options.

The range of comfort-and safety-enhancing driver assistance systems has been extended once again. The Driving Assistant Plus safety package includes the new-generation Active Cruise Control with Stop & Go function, the Steering and lane control assistant, the Lane Keeping Assistant with active side collision protection, and the Crossing traffic warning and Crossroads warning systems. The new Parking Assistant Plus feature also comprises the Top View, Panorama View and 3D View functions.
The Remote 3D View function gives drivers the ability to call up a three-dimensional live image of their vehicle and its immediate vicinity on their smartphone. Also available as options are the WiFi hotspot preparation enabling rapid online connectivity for digital devices and telephony with wireless charging for compatible smartphones.

New digital services from BMW ConnectedDrive offer comprehensive assistance with personal mobility planning. The standard ConnectedDrive Services provide the basis for accessing features such as Real Time Traffic Information, On-Street Parking Information and the Concierge Services.
The mobility assistant BMW Connected interfaces the vehicle with touchpoints – such as smartphones, smartwatches and voice-controlled personal assistants – via the flexible Open Mobility Cloud platform.
The additional features of BMW Connected+ offer an even greater degree of personalisation. BMW is also the first carmaker to offer a secure server connection for exchanging and editing emails, calendar entries and contact details – thanks to the Microsoft Office 365 function, which users can select from the ConnectedDrive Store.

The BMW X4 is available in China in the BMW X4 xDrive25i and BMW X4 xDrive30i variants.

5. Exciting looks, sparkling dynamics: The new BMW X2.

The attractive, exciting, extrovert new BMW X2 will celebrate its Asian premiere at the Auto China 2018 in Beijing. With a design oozing individuality from every pore and a sporty suspension set-up, the BMW X2 pushes back boundaries, puts a firework under old habits and brings previously uncharted levels of driving pleasure to this vehicle segment.

In so doing, the BMW X2 appeals primarily to a young and young-at-heart target group. These customers live in urban areas, lead active lives and are fully connected with the digital world.

The design: a distinctive character.
The BMW X2 cuts a sublime figure from any angle. Its stance on the road recalls a finely-tuned athlete – and fuses the rugged profile typical of a BMW X model with the sporting grace of a coupe. Signature details include wheel arches with a squared-off look, striking exhaust tailpipes and accentuated side skirts, not to mention an elegant roofline, slick lines and slim window graphic.

Never does the BMW X2 betray its own unique character; this is a standalone model to its core, one which stands out positively from the crowd. Plus, the M Sport X model is available for the first time and allows owners to make the character of their BMW X2 even more individual.

Two design features, in particular, catch the eye. The X2 turns BMW's familiar trapezoidal kidney grille form on its head, and it now broadens as it heads south; this is the first time a modern BMW has gone about things this way. And the additional BMW roundel on the C-pillars references a much loved detail of classical BMW coupes, such as the 2000 CS and 3.0 CSL, highlighting the sporting DNA of the BMW X2.

Dynamics brimming with power and efficiency.
BMW TwinTurbo engines transfer these genes to the road in suitably dynamic style. Three variants are available from launch; the BMW X2 sDrive20i petrol model with 141 kW/192 hp (fuel consumption combined: 5.9 – 5.5 l/100 km [47.9 – 51.4 mpg imp]; CO_2 emissions combined: 134 – 126 g/km)*, plus the BMW X2 xDrive20d diesel variant with 140 kW/190 hp

* Fuel consumption and emissions figures as per the EU test cycle, may vary depending on the tyre format specified.

(fuel consumption combined: 4.8 – 4.6 l/100 km [58.9 – 61.4 mpg imp]; CO_2 emissions combined: 126 – 121 g/km)* and BMW X2 xDrive25d diesel with 170 kW/231 hp (fuel consumption combined: 5.3 – 5.1 l/100 km [5.3 – 5.1 l/100 km [53.3 – 55.4 mpg imp]; CO_2 emissions combined: 139 – 133 g/km)*.

Both diesel cars come as standard with xDrive intelligent all-wheel drive and the eight-speed Steptronic transmission, while the petrol model is fitted with the sporty seven-speed Steptronic dual-clutch transmission. All combinations turn every journey – on any terrain – into an adventure.

The three-cylinder BMW X2 sDrive18i and the four-cylinder BMW X2 xDrive20i, BMW X2 sDrive18d and BMW X2 xDrive18d model variants are going to be added to the Sports Activity Coupe's line-up of engines. The outputs of the petrol models will then range from 103 kW/140 hp in the BMW X2 sDrive18i (with manual gearbox, fuel consumption combined: 6.3 – 6.0 l/100 km [44.8 – 47.1 mpg imp], CO_2 emissions combined: 144 – 138 g/km**; with seven-speed Steptronic dual-clutch transmission, fuel consumption combined: 6.2 – 5.9 l/100 km [45.6 – 47.9 mpg imp], CO_2 emissions combined: 141 – 135 g/km**) up to 141 kW/192 hp in the BMW X2 xDrive20i (fuel consumption combined: 6.2 – 6.1 l/100 km [45.6 – 46.3 mpg imp]; CO_2 emissions combined: 142 – 138 g/km**). The diesel BMW X2 sDrive18d (with manual gearbox, fuel consumption combined: 4.6 – 4.5 l/100 km [61.4 – 62.8 mpg imp], CO_2 emissions combined: 121 – 119 g/km**; with eight-speed Steptronic transmission, fuel consumption combined: 4.7 – 4.5 l/100 km [60.1 – 62.8 mpg imp], CO_2 emissions combined: 124 – 118 g/km**) and BMW X2 xDrive18d (fuel consumption combined: 5.2 – 4.8 l/100 km [54.3 – 58.9 mpg imp], CO_2 emissions combined: 137 – 128 g/km**) have 110 kW/150 hp.

The sporty suspension of the BMW X2 transfers the fine agility and dynamics of the BMW drivetrain to the road. The M Sport und M Sport X models come as standard with M Sport suspension with firmer spring and damper settings and a lowered ride height. This feature is available as an option on the basic BMW X2. The optional Dynamic Damper Control (incl. a 10 mm drop in ride height) allows the suspension settings to be tailored even more closely to individual tastes or requirements.

* Fuel consumption and emissions figures as per the EU test cycle, may vary depending on the tyre format specified.
** Provisional fuel consumption and emissions figures as per the EU test cycle, may vary depending on the tyre format specified.

Equipment: modern style.

Drivers can expect to find top quality included as standard. The interior of the M Sport and M Sport X models is trimmed in an enticing Micro Hexagon fabric/Alcantara Anthracite combination with contrast stitching for the instrument panel and centre console. And the instrument cluster and large displays bring added flourishes to the interior and act as visual pointers to BMW's digital expertise.

Which brings us to features such as BMW Connected and BMW ConnectedDrive Services – both available as an option for the BMW X2. Joining them on the options list is the full-colour BMW Head-Up Display.

The BMW X2 also offers customers cutting-edge technologies when it comes to driver assistance systems. For example, the Traffic Jam Assistant eases the driver's workload in tedious stop/start traffic on congested motorways. This system is part of the optional Driving Assistant Plus, which comprises a series of camera-based driver assistance systems. The optional Parking Assistant is likewise designed to make life easier for the BMW X2 driver, automatically identifying suitable parking spaces and, if desired, taking over steering duties for the parking manoeuvre.

The BMW X2 is available in China in the BMW X2 sDrive20i variant. The BMW X2 xDrive20i and BMW X2 sDrive18i will be added to the line-up for production from July 2018.

6. A new dimension in spaciousness: The BMW Concept X7 iPerformance.

With the unveiling of the BMW Concept X7 iPerformance at the Auto China 2018 in Beijing, the BMW Group is not only pulling back the covers on a new model concept for the luxury segment, it is also introducing a whole new take on luxury for the BMW brand. The Concept X7 iPerformance embodies this understanding of luxury in the form of a striking exterior composed of intently focused lines, and combines it with a generously-sized, six-person interior pared down to the essentials: elementary forms, high-class materials and a state-of-the-art infotainment system brimming with connectivity. The Concept's iPerformance badge denotes the presence of groundbreaking BMW eDrive technology allied with a BMW TwinPower Turbo petrol engine to create an exceptionally efficient and dynamic plug-in hybrid powertrain that excels in all driving situations – including running with zero local emissions.

A taster of the production version.
This study car offers a look ahead to the future production model set to make its debut later in 2018. The forthcoming BMW X7 forms part of the largest model offensive in the company's history. As part of its NUMBER ONE > NEXT strategy, the BMW Group is seeking to substantially increase its sales and revenues in the luxury class. The BMW X7 has a key role to play here. With the first BMW X5 back in 1999 the Sports Activity Vehicle segment was founded. Since then every subsequent BMW X vehicle has broken new ground. The BMW X7 continues this tradition: the BMW X family's new top model extends BMW's offering in the luxury class and redefines the concept of luxury for the BMW brand and beyond. Furthermore, the BMW Concept X7 demonstrates it's perfectly possible to combine a large sports activity vehicle with an electrified drivetrain.

A case study in modernity, luxury and presence.
The status of the BMW Concept X7 iPerformance as a luxury-class BMW SAV is instantly apparent. The spectacular exterior, imposing dimensions and skilfully judged proportions endow it with an extraordinary sense of presence and an ultra-modern aesthetic fused with innate dynamism. "The Concept introduces the BMW Sports Activity Vehicle DNA into the luxury segment. The new BMW design language employs just a few, extremely precise lines and subtle surface-work to raise the bar in terms of presence and prestige," explains Adrian van Hooydonk, Senior Vice President

BMW Group Design. “The BMW Concept X7 iPerformance has a luxurious and sophisticated feel to it, thanks to its understated use of forms and incredibly precise details.”

The luxurious character of the BMW Concept X7 iPerformance is brought alive by its cabin, in particular. The vehicle’s sheer size forms the basis for an interior experience unmatched by any BMW past or present. As a result of the interplay between precise, pared-down forms and an open sense of space, the driver and passengers find themselves immersed in a very modern setting with an equally exclusive feel. The wealth of possibilities offered by personalised, digital connectivity allows the vehicle’s interior to be turned, as desired, into a personalised place of either retreat or productivity.

A contemporary feeling of lightness in the interior.
Inside the roomy cabin of the BMW Concept X7 iPerformance, clear forms, warm colours and select materials combine to create a highly exclusive, sophisticated ambience. In addition, the large panoramic roof provides a remarkable amount of room above the occupants’ heads while also giving the interior a light and airy, open-to-the-sky feel. The six amply proportioned seats are arranged in three rows, and four of them have an exclusive individual design. Secured to the vehicle floor by nothing more than a slender seat base, the individual seats allow those sitting directly behind to enjoy generous legroom. The dark, olive-bronze leather – with discreet gold pigmentation – covering the seat bolsters carries the air of exclusivity through to the finer details and the Smoke White leather adorning the remainder of the seats provides an intriguing contrast. The shell-like backs of the individual seats are likewise trimmed in leather and serve to enhance the high-class, contemporary ambience.

A perfect ensemble of materials and colour.
The dark shoulder line running underneath the windows traces a continuous horizon throughout the cabin that brings fresh calmness to the bright interior. Decorative materials are deployed sparingly. Having said that, the selective use of open-pore ash in a dark-stained, matt finish sets the seal on the natural material experience. Matt and polished aluminium elements have likewise been carefully incorporated to add further classy touches. And the luxurious sense of spaciousness enjoyed from all seats is reinforced to subtle effect by strands of laser light in the roof and the dynamic ambient and contour lighting.

Minimalist forms in the driver's cabin.
Amid the modern and pared-back design of the interior is the driver focus familiar to BMW customers. The forms and surfacing of the instrument panel, centre console and doors allow them to "wrap around" the driver. And the raised seating position provides unbeatable all-round visibility and an exceptional view over the road. The new BMW design language, featuring amply-sized surfaces and clear edges, gives the instrument panel a "reduced to the essentials", modern aesthetic. The 12.3-inch instrument cluster screen and central touchscreen information display are sited at close quarters to one another. The effect is of one unbroken – and smartly sophisticated – display. A new operating concept allows interactive use of the two displays.
Below them, in the centre stack and centre console, the grouping of functions within the clean and tautly chiselled surfaces underscores the minimalist approach. Partially backlit crystal glass in the dark Silver Night shade lends sophisticated flourishes to control elements like the selector lever, iDrive Controller and multifunction buttons on the steering wheel.

Personalised infotainment through the seamless integration of the owner's digital world into the car.
The two individual seats in the second row offer all the benefits of the front pair. The first sign of an attachment between the panoramic roof and body comes comfortably to the rear of the second row of seats in the form of a Y structure, which means the passengers in the centre row experience the same sensation of freedom and lightness as those in the front. Second-row passengers also enjoy personalised infotainment comfort courtesy of the rear-seat entertainment system's touchscreen monitors. Here, the BMW Concept X7 iPerformance showcases the BMW Group's vision of seamless integrating the customer's digital world into the car via BMW Connected. For example, passengers here have access to highly personalised, digital services such as their choice of infotainment / office content, with which they can make their journey more comfortable, more entertaining or more productive. And content can even be shared with others on board. For instance, they can send a track

to the car's music system by touch gesture, forward an interesting article to the next-door display for the person sitting alongside them to read or transfer an address from their email directly to the car's navigation system. Interactive LED choreography via the doors and instrument panel traces the communication flow between the rear screens and the display at the front of the cabin.

Impressive size and presence – the exterior.
The expansive exterior of the BMW Concept X7 iPerformance projects the exclusive experience available inside the car confidently to the outside world. Clear, vertical proportions with significant ground clearance identify the Concept as an X model without the need to look twice. At the same time, the Concept speaks its own, unmistakeable design language – a new one for BMW – through an array of details and design features which set it apart clearly from previous models. Viewed from any angle, the interplay between a small number of precise lines and artfully sculpted surfaces sends out a charismatic statement of modernity, presence and exclusivity.

A new face in the BMW X family.
The front end of the BMW Concept X7 iPerformance is one of its most eye-catching angles, the vehicle's height alone ensuring it rises prominently over the road. In an all-new interpretation of classical BMW elements, the front-end design groups together the various facets of the vehicle into a powerful visual statement. The large, vertical kidney grille at the heart of the upright front-end silhouette hogs the attention. The grille frame and bars are single-piece and solid in design, as if hewn from a single piece. Look at it again, though, and fascinating contrasts emerge between gleaming edges and matt surfaces, all of which breathes extra vibrancy and class into the frontal impression.

The upper sections of the slim, elongated twin headlights with BMW laser light link to the large kidney grille. A blue X signature in BMW laser light provides a confident pointer to the Concept's membership of the SAV family from BMW. The headlights and kidney grille combine to create an exciting contrast of horizontal dynamism and vertical solidity, bringing traditional BMW front-end design cues into the future. Large, tautly sculpted surfaces surround the familiar BMW design icons, underlining the car's cohesive and muscular front-end aesthetic.

A prominent bar extends across the full width of the front apron in its lower section, before rising vertically to frame the outer air intakes at their upper edge. This lends the front end additional stature. Quasi-vertical aero lips further accentuate the car's powerfully assured stance on the road. Customary X features like the trapezoidal bumpers and underguard, meanwhile, are merely hinted at, their understated design serving the cause of clear and exclusive surfacing.

Impressive proportions.
From the side, the BMW Concept X7 iPerformance cuts a sumptuous figure, complete with the characteristic ground clearance of X vehicles. The nigh-on vertical front end, striking and almost vertical rear and steeply rising angle from the rear wheels to the tailgate give the muscular proportions a modern flourish. The high-set lines of the flanks bring an expressive confidence to the car's silhouette. And the long shoulderline stretches the car and injects an athletic tension to the flanks. It also separates the car's body into the light and airy glasshouse (which offers a preview of the large interior) and the muscular metal forms.

For the first time in an X vehicle, the wheel arches feature a circular cut and emphasize the exclusivity and elegance of the flanks. Smart and precise surfacing absorbs the powerful wheel arches in an aesthetic movement. The surfaces gain in volume and strength as they head towards the rear end, further underscoring the subtle dynamism of the car when viewed from the side.

Bold accents in the flanks.
A conspicuous chrome strip in the door sills provides an exclusive counterpoint to the car's long, stretched shoulderline and sophisticated surfaces below. As with the trim element at the front end, the chrome strip in the car's flanks frames the Air Breathers in a vertical accent, before continuing in a straight line to the rear end. These surrounds for the front, side and rear air apertures create a geometrically precise impression and lend the car a sense of robust solidity.

The exclusive exterior colour shade Manhattan metallic immerses the car's surfaces and forms in a dark olive-bronze that highlights the confident styling of the flanks with sophisticated flair. With their bold multi-spoke design, the 23-inch light-alloy wheels combine the muscularity for which BMW's X models are renowned with the exclusivity of a luxury BMW sedan, while aerodynamically optimised inlays between the spokes reduce drag. Added to which, conspicuous aero lips at the front and rear also ensure improved airflow around those areas of the car and send out a powerful visual message of the plug-in hybrid drive concept's efficiency. A bird's-eye view of the BMW Concept X7 iPerformance reveals a particular highlight. Like the side window surrounds, the panoramic roof is framed by an eye-catching chrome strip, which extends from one A-pillar to the rear end – and back around the other side. In between, the roof's transparent, Y-shaped supporting structure adds a modern flourish.

Power, presence and exclusivity at the rear.

The rear of the BMW Concept X7 iPerformance sends out an impressive statement of powerful authority and exclusive elegance. The imposing size of the vehicle's body – the key to its huge swathes of interior space – is particularly clear when viewed from the rear. Vertical aero lips mark out the rear of the car clearly from the flanks. Within the upright rear silhouette, the slim rear lights break up the body volumes and a classy chrome bar connects the two lighting elements. The boldly designed lights create a three-dimensional L shape and bring a technical, high-quality flavour to the rear. As at the front of the car, the surfaces frame the lights like jewels. Between the wheel arches, the rear apron with practical tailgate opening provides a strong platform for the rear structure. The absence of tailpipe embellishers in the rear apron is an indicator of the vehicle's plug-in hybrid drive concept. And the subtle, body-coloured underguard ensures the rear concludes its progress towards the road in stylish fashion

Distinctive brand presence for BMW's luxury-segment cars.

As part of its forthcoming model offensive, BMW has developed a new presence for its luxury cars that sees the profile and positioning of the most exclusive members of its range refined into a distinct product category. The new BMW 8 Series, new BMW X7, BMW i8 and new BMW i8 Roadster will join the BMW 7 Series in the brand's significantly expanded luxury segment line-up. The identity and attitude shared by BMW's elite models are echoed in a newly designed logo which combines a black-and-white version of the manufacturer's roundel first used 100 years ago with the company name "Bayerische Motoren Werke" written out in full.

With its classical, understated aesthetic and the company's original name spelt out, the logo highlights BMW's inimitable history. The boldness 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.

7. Unadulterated dynamics and modern luxury – the essence of a BMW coupe: The BMW Concept 8 Series.

The BMW Group is using the Auto China 2018 in Beijing to present the BMW Concept 8 Series, the essence of a modern-day BMW coupe wrapped up in an enthralling design study. The study car will serve as a taster of a forthcoming BMW model – the new BMW 8 Series Coupe, slated for launch later in 2018 and part of the biggest model offensive in the company's history. The NUMBER ONE > NEXT strategy sees the BMW Group aiming to significantly increase sales and revenues in the luxury class, and the BMW 8 Series Coupe plays an important role here. "The number 8 has always represented the pinnacle of sports performance and exclusivity at BMW," explains Chairman of the Board of Management of BMW AG Harald Krüger. "The forthcoming BMW 8 Series Coupe will demonstrate that razor-sharp dynamics and modern luxury can go hand-in-hand. This will be the next model in the expansion of our luxury-car offering and will raise the benchmark for coupes in the segment. In the process, we will strengthen our claim to leadership in the luxury class."

The BMW Concept 8 Series reveals much of what is to come.
"The BMW Concept 8 Series is our take on a full-blooded high-end driving machine," says Adrian van Hooydonk, Senior Vice President BMW Group Design. "It is a luxurious sports car which embodies both unadulterated dynamics and modern luxury like arguably no other. For me, it's a slice of pure automotive fascination."

The exterior brings together the past and the future.
The BMW Concept 8 Series is immediately recognisable as a BMW, but also displays new design ideas and form-building techniques. "The design of the BMW Concept 8 Series provides a fresh interpretation of iconic BMW styling cues," adds van Hooydonk. "And it also showcases a new approach to the use of forms which is reflected particularly prominently in the car's surfacing. A handful of crisp lines mark out clear surfaces, and the car's volumes are powerfully sculpted. Together, these elements make a forceful statement and create a model brimming with character. In short, this is a driver's car."

The flanks: expansive surfaces set within a sporting outline.
The silhouette of the BMW Concept 8 Series spreads low and powerfully over the road. The interplay of a long bonnet and flowing roofline bring dynamic allure to the car's flanks, while the striking upward sweep of the concept's trailing edge provides a crisp conclusion to the car's rearward flow and adds another sporting flourish.

Within the car's silhouette, the refreshingly clean yet also dramatic arrangement of surfaces and forms catches the eye and creates a crisp, modern look. The sharply drawn lines coursing over taut volumes represent a visual promise of the vividly dynamic driving experience that awaits.

A look at the details reveals two expressively styled character lines providing the border for surfacing that appears to be formed by air rushing out of the Air Breathers. Further back, the eye is guided to the pronounced flaring above the rear wheels. The flanks as a whole draw attention to a new aspect of BMW's expertise in the execution of surfaces. Skilfully moulded line sources and flowing highlights accentuate the athletic contours of the BMW Concept 8 Series. And the exclusively developed exterior paint finish Barcelona Grey Liquid – a greyish-blue with highly iridescent pigments – shows off the surfacing to optimum effect. Large (21-inch) light-alloy wheels feature a sporty and exclusive multi-spoke design and aero elements, generate visual depth and set the seal of the compelling appearance of the car when viewed in profile.

The front end: sporty, low-slung and visually striking.
A large kidney grille, slim twin headlights and large air intakes form a striking, sporty front-end graphic. The classic BMW template has a fresh interpretation here, taking the company's design language in a different direction.
For example, the two kidneys are very low to the road and spread broadly across the front end. Taking inspiration from BMW coupes of years past, the kidneys are brought together by an unbroken frame to form a single large element. The grille widens as it extends downwards, emphasising the dynamic character of the BMW Concept 8 Series. Together with super-slim laser headlights and the hexagonal take on the "twin circular" theme, it brings a focused look to the front end.

The large side air intakes in the front apron intensify the car's wide, sporting stance on the road and promise a very pure dynamic experience. The carbon-fibre element between them underlines the car's sporty, high-performance character.

The rear: bold and modern.
Emotional surfacing also dominates at the rear of the BMW Concept 8 Series, creating a low, highly sculpted tail with maximum width-enhancing effect. The rear is defined by the interplay between volumes and lines, which extend around from the flanks and shape the rear section of the car. The powerful wheel arches hint at the car's dynamic talents and advertise its rear-wheel drive. And the tapering of the passenger cell and the car's wide track shine a particularly vivid spotlight on this area of the car.

The slim, stretched-out rear lights extend far into the sides of the car and provide a connection between the rear and flanks. The lights themselves take the form of L-shaped blades and project out from the rear. They emphasise the width of the car and its muscular stance on the road, and their slender form gives the rear an ultra-sporty and modern flavour.

The dark, stylised carbon-fibre diffuser in the lower section of the rear apron adds extra lightness and a sportier feel to the rear graphic. Large, trapezoidal exhaust tailpipes frame the rear section and point to the dynamic driving experience to come.

The interior: an emotionally rich blend of dynamics and luxury.
The interior focuses on the essential: the task of driving. Once behind the wheel, the driver is wrapped in the tightly enclosed ambience typical of sports cars. The surfaces and lines all gravitate forwards and underscore the dynamic driving experience. The grouping of functions into control clusters, e.g. in the centre stack, the centre console and the doors, gives the interior a clear graphic structure.

Among the standout design elements in the interior are the fluid transition from the instrument panel into the doors and the sporty, enveloping feel of the interior. This impression is magnified by the smooth connection between the centre console and instrument panel, which together form the nucleus of the interior. The high centre console and the instrument panel's low visual focus add further emphasis to the snug and sporty feeling of space.

The interior of the BMW Concept 8 Series actively explores the contrasts between emotion and engineering, dynamic flair and luxury; its form suggests supreme sportiness, while exquisite materials exude exclusivity and high-grade design. For example, all of the driver's contact points with the car are brimming with sporting character. The exclusive sports seats are slim in design, the carbon-fibre shell providing the basic structure and the finest leather making them the perfect place to sit. The steering wheel continues along similar lines, its hand-polished aluminium spokes arrowing forward

purposefully, and the red-anodised shift paddles bring the race track to mind. The contrast of aluminium and dark leather on the gripping surfaces emphasises this luxurious sense of sportiness in various details.

Merino leather in Dark Brown and Fjord White lends the interior a high-quality ambience. Accent surfaces in carbon fibre and hand-polished aluminium create deliberate contrasts and radiate a sporty and technical feel. Plus, a faceted ground gearshift lever and the iDrive Controller made from Swarovski glass with a smoky quartz look treat the interior to some modern and classy finishing touches.

A sign of things to come.
The BMW Concept 8 Series is a preview of a model BMW is set to introduce (in a similar form) later in 2018. The BMW 8 Series Coupe will build on the company's successful tradition of luxurious sports cars and adds another exciting model – a genuine dream car – to its existing luxury-class line-up. The BMW 8 Series Coupe will bring together razor-sharp dynamics and modern luxury, and set new benchmarks in the luxury coupe segment.

An M8 is also planned. The BMW M8 will set the seal on the sporting model range.
The BMW M8 is the icing on the cake of the sporty BMW 8 Series line-up. Alongside the ongoing development of the standard 8 Series, the engineers at BMW M are also working flat out on the M model. A fully camouflaged, early prototype of the future BMW M8 was unveiled in a driving presentation as part of the support programme for the Nürburgring 24-hour race. Classical M features like larger air intakes, modified brakes and a sports exhaust with four tailpipes hint at the significantly boosted power and dynamic potential of the car and whet the appetite for a driving experience of intense emotional richness.

"The conception and development of the standard BMW 8 Series and the M model have run in parallel," explains Frank van Meel, President BMW M Division. "The future BMW M8 will build on the genes of the 8 Series and augment its DNA with added track ability and generous extra portions of dynamic sharpness, precision and agility. It all flows into a driving experience that bears the familiar BMW M hallmarks and satisfies our customers' most exacting requirements."

8. A new form of electrifying driving pleasure:
The BMW i Vision Dynamics.

Following on from the NEXT 100 vision vehicles presented in the anniversary year 2016, the BMW Group is introducing the electric mobility of the much more immediate future at the Auto China 2018 in Beijing. The BMW i Vision Dynamics is a four-door Gran Coupe with a range of 600 km (373 miles), a top speed of over 200 km/h (120 mph) and acceleration of 0 – 100 km/h (62 mph) in four seconds, and offers a look ahead to the e-mobility experience of the future with a new level of sporting elegance. “At the BMW Group, the future of electric mobility has already arrived,” says Harald Krüger, Chairman of the Board of Management at BMW AG. “We have more electrified vehicles on the road than any established competitor and are committed to expanding our activities in the field of electric mobility as part of our NUMBER ONE > NEXT strategy. By 2025 we will be offering 25 models with an electrified drive system – of which 12 will be pure-electric. With the BMW i Vision Dynamics we are showcasing how we envisage future electric mobility between the i3 and i8: a dynamic and progressive, four-door Gran Coupe. We are therefore electrifying the heart of the BMW brand and, at the same time, elevating BMW i into a totally new dimension.

BMW i sets the pace of innovation.
BMW i is a byword for visionary vehicles and a new understanding of premium mobility focused squarely on sustainability. “BMW i is the innovation driver for the BMW Group,” explains Klaus Fröhlich, Member of the Board of Management at BMW AG, Development. “Here, visionary solutions and future-ready concepts become reality for the first time. But BMW i also acts as a spearhead of innovation for our other brands. The BMW i Vision Dynamics allows us to show right now what another electric BMW might look like. And BMW has demonstrated its talent for turning visions into real life throughout its history.”

The inspirational design of BMW i models is particularly effective in both flagging up the brand's pioneering role visually and making it something people can experience. "With the i3 and i8 we have designed a revolutionary city car and a revolutionary sports car," says Adrian van Hooydonk, Senior Vice President BMW Group Design. "And now the BMW i Vision Dynamics is combining electric mobility with the core values of BMW: dynamism and elegance. We are therefore demonstrating how the product range and the design language of BMW i can be evolved further into other concepts."

"I do more with less" – the design identity of BMW i.

The outline of the BMW i Vision Dynamics represents a further evolution of the classical BMW proportions; a long wheelbase, flowing roofline and short overhangs create a basic profile brimming with elegance and dynamism. appearing as if cut from a single mould. Aerodynamic requirements define the car's progressive appearance down to its details. Barely visible joins and the flush integration of glass into the main body lend the study a modern and technical overall impression. The tension between large surfaces and finely worked details points to the innovative technology at the heart of the car in an understated yet intuitively appreciable way, rather than advertising it in grandiose fashion. And that is very much in keeping with the identity of BMW i: "I do more with less".

Iconic window graphic symbolises the interior experience of the future.

Within the smoothly flowing, neatly aligned progression of the surfaces along the car's flanks, the new characterisation of the window profile is a standout feature of the BMW i Vision Dynamics. This iconic styling cue, which made its debut on the first wave of BMW i models, is depicted here in a fresh, likewise function-led interpretation and also sharpens the identity of the car's flanks. Their virtually symmetrical form allows all passengers an equally good view out, highlighting the attention paid to the passengers and the shared driving experience in the interior. This is something that will gain further in importance in the future, in particular as far as (semi-) autonomous and connected driving is concerned. The distinctive driving experience is further enhanced by the full-length glass surface running from the windscreen to the rear window. This heightens the sensation of room and enables a feeling of spaciousness and freedom inside the car that belies its dynamic exterior silhouette. Viewed from the outside, the unbroken roof graphic reinforces the enclosed, modern feel of the exterior thanks to seamless transitions through the front and rear end.

Familiar icons at the front gain new significance.
The prominent, enclosed “kidneys” in the minimalist front end bring together the past and the future of BMW in more than just styling terms. Where the BMW kidneys have previously acted as a symbol for the company’s expertise in drive system development, the BMW i Vision Dynamics deploys them as declarations of technological know-how. Indeed, underlying sensors turn the kidneys into an “intelligence surface”. The headlights similarly combine tradition and the future. The classical BMW four-eyed front end is reprised here in a very modern and pared-back interpretation, two intricate, freestanding LED light elements on each side of the car’s nose integrating all the necessary lighting functions, yet also providing an extremely striking look characteristic of BMW.

Poise and dynamic allure at the rear as well.
Smooth curves guide the car’s horizontal profile when viewed from the rear and add poise and power. The tapering of the passenger cell creates broad shoulders and a muscular presence. The most eye-catching feature of the rear end are the L-shaped lights. Their slim cut underscores the dynamic efficiency of the vision vehicle on a detailed level, while at the same time accentuating its wide stance on the road.

The BMW i Vision Dynamics exudes modernity, progressiveness and an appealing technical aesthetic from every angle. As a trailblazer for the BMW brand, it showcases very clearly the BMW Group’s future vision of emotionally engaging electrified mobility. Indeed, BMW will continue to focus its attentions on sporty and elegant vehicles in the years ahead.

9. Sustainable driving pleasure.
The new BMW i8 Roadster.

Another intoxicating chapter is about to be written in the success story of the BMW i8 (fuel consumption combined: 1.8 l/100 km [148.7 mpg imp]; electricity consumption combined: 14.0 kWh/100 km; CO_2 emissions combined: 42 g/km), as the updated version of the 2+2-seater – the world's highest-selling plug-in hybrid sports car since its launch in 2014 – is joined by the new BMW i8 Roadster (fuel consumption combined: 2.0 l/100 km [134.5 mpg imp]; electricity consumption combined: 14.5 kWh/100 km; CO_2 emissions combined: 46 g/km) in the line-up. The open-top two-seater with electrically operated soft-top adds a whole new sensation of freedom to the combination of locally emission-free mobility and high-calibre performance. It opens the door to virtually silent motoring with zero CO_2 emissions, bringing an extra edge of purity to the experience of open-top Sheer Driving Pleasure.

Like the new BMW i8 Coupe, the new BMW i8 Roadster is based on the LifeDrive vehicle architecture with aluminium chassis and carbon-fibre-reinforced plastic (CFRP) passenger cell. The further optimised BMW eDrive technology employed in both models comprises a high-voltage battery with significantly expanded cell capacity and energy content, and an electric motor generating a higher peak output. The result is a noticeable increase in dynamic performance, operating range and the amount of driving possible using purely the electric drive system.

The proportions, lines and surface design mark out both the BMW i8 Coupe and BMW i8 Roadster as belonging to a new breed of sports car. On an individual level, the BMW i8 Coupe stands out as an extremely sporty 2+2 seater, while the BMW i8 Roadster oozes all the freedom of open-top motoring for two. The two models sport "Coupe" or "Roadster" lettering respectively on their C-pillars. The choice of exterior paint finishes now includes the new E-Copper metallic and Donington Grey metallic shades.

The BMW i8 Roadster: emotion-packed design, a character all of its own.
The BMW i8 Roadster carries over the BMW i design language into another vehicle concept, and is awash with individual highlights that radiate elegance and fire the emotions. The soft-top roof has a visual lightness to go with its low physical weight and serves as a defining element of the silhouette in reinforcing the road-hugging impression made by the car's low centre of

gravity. The body's dynamic wedge shape can also be best appreciated when viewing the two-seater in profile.

When opened, the BMW i8 Roadster's broad roof retracts fully into the rear end. A unique mechanism allows the soft-top to be folded into a compact package and stowed away in a perpendicular position, creating around 100 litres of additional storage space behind the seats. The all-electric roof opens and closes very quietly in 15 seconds, a process which can be initiated while travelling at up to 50 km/h (31 mph). Dropping down the roof raises the rear window by around 30 millimetres into a comfort position, where it can serve as a draught stop.

Innovative lightweight design cuts the roadster weight penalty.
The familiar lightweight design measures used for previous BMW i models have been meticulously adapted to the specific requirements of the i8 Roadster. The open-top two-seater comes with newly designed frameless gullwing doors made from CFRP with an aluminium outer shell, while the windscreen frame is made entirely from CFRP. This ultra-strong high-tech material is ideally equipped to provide exceptional rigidity, maximising the car's occupant protection even if it rolls over.

CFRP is also used to manufacture the side skirts with their extra-large cross-section. Additional struts and panels in the front and rear axles also help to maximise the body's rigidity. The unladen weight of the new BMW i8 Roadster stands at 1,595 kilograms, meaning the design's inherent weight penalty vis-à-vis the Coupe is limited to around 60 kilograms, a remarkably low figure for an open-top car.

Optimised BMW eDrive technology: more power, longer range, a further enhanced electric driving experience.
Rigorously further developed BMW eDrive technology and the optimised operating strategy of the intelligent energy management lead to a significant increase in the number of driving situations where the electric motor can be solely responsible for powering the car. This underscores the ground-breaking character of the new BMW i8 Coupe and ensures that drivers of the new BMW i8 Roadster can enjoy silent and locally emission-free open-top motoring to the full.

Underpinning this new level of electric driving experience is an updated version of the lithium-ion battery developed for the BMW i8. The high-voltage unit is located centrally in the car's underbody. Its cell capacity is up from 20 to 34 Ah and gross energy capacity rises from 7.1 to 11.6 kWh (net: 9.4 kWh). All of which means the electric motor has more energy at its disposal. The cell

configuration allows a 9 kW/12 hp increase in peak output to 105 kW/143 hp, lacing quick sprints on pure-electric power with an even more vivid streak of dynamism.

In the standard driving mode, the new BMW i8 Coupe and new BMW i8 Roadster can be driven exclusively on the electric motor alone – from step-off to a speed of 105 km/h (65 mph), which is up from 70 km/h (44 mph) in the original BMW i8. The combustion engine is only brought into play at higher speeds or when the driver stamps down hard on the accelerator, and is switched off again far more frequently when a measured driving style is maintained. Pressing the eDrive button allows both models to travel at up to 120 km/h (75 mph) on electric power alone. The electric range of the new BMW i8 Coupe in the NEDC test cycle has increased to 55 kilometres (34 miles)* and the new BMW i8 Roadster posts a figure of 53 kilometres (33 miles)*.

Engine with optimised emissions.
The internal combustion engine has also undergone further optimisation to ready it for the new BMW i8 Coupe and new BMW i8 Roadster. The three-cylinder unit extracts maximum output of 170 kW/231 hp from its displacement of just 1.5 litres, along with peak torque of 320 Nm (236 lb-ft). In the process, it generates an even sportier soundtrack. A particulate filter is now fitted to further reduce emissions by absorbing the particulate matter contained in the exhaust gases.

The system output produced by the electric motor and engine acting in unison is now 275 kW/374 hp. The new BMW i8 Coupe accelerates from 0 to 100 km/h (62 mph) in 4.4 seconds, while the new BMW i8 Roadster takes a tick longer with a time of 4.6 seconds. Both models have an electronically limited top speed of 250 km/h (155 mph). Combined fuel consumption, as calculated in the EU test cycle for plug-in hybrid vehicles, stands at 1.9 litres per 100 kilometres (148.7 mpg imp) for the BMW i8 Coupe and 2.1 litres per 100 kilometres (134.5 mpg imp) for the BMW i8 Roadster, plus 14.0 kWh and 14.5 kWh of electrical energy respectively per 100 kilometres. Petrol CO_2 emissions come in at 42 grams per kilometre for the BMW i8 Coupe and 46 grams per kilometre* for the BMW i8 Roadster.

Hybrid-specific all-wheel drive, precision-tuned chassis.
The electric motor's power is transmitted to the front wheels and the engine's drive to the rear wheels, resulting in a hybrid-specific all-wheel-drive system that is controlled by the car's intelligent energy management.

In hybrid mode, the electric motor provides a power boost to assist the engine when the driver is accelerating with particular vigour. It is also able to recuperate energy and feed it to the high-voltage battery on the overrun and under braking. The petrol engine's high-voltage starter-generator can likewise generate additional reserves of electricity, thereby ensuring sufficient energy is on tap at all times for the electric drive system in the new BMW i8 Coupe and new BMW i8 Roadster.

When the navigation system's route guidance function is activated, the intelligent energy management ensures the electric motor is employed as extensively as possible and as judiciously as possible from an efficiency point of view. The system analyses the route in full and sets up the powertrain management to run on purely electric power, particularly over low-speed sections of the journey.

The model-specific tuning of the suspension and damping systems, the specially configured steering characteristics, a firmer roll stabilisation set-up and targeted modification of the DSC parameters together guarantee that the new BMW i8 Roadster retains all of the plug-in hybrid sports car's trademark handling and performance qualities. Dynamic Damper Control is included as standard on both models. The standard 20-inch light-alloy wheels fitted to the new BMW i8 Roadster feature a lightweight construction and each weigh around one kilogram less than the lightest wheels previously offered for the BMW i8.

Exclusive equipment with innovative style.
The new BMW i8 Coupe and new BMW i8 Roadster come with Carpo interior trim as standard, comprising full-leather upholstery in Ivory White for the Coupe and Ivory White/Black for the Roadster. As well as Halo interior trim, the list of optional extras also includes new Accaro interior trim with an Amido/E-Copper colour scheme. Standard specification also includes features such as a leather sports steering wheel with multifunction buttons and shift paddles, electrically adjustable and heated seats, the multifunctional instrument display, the Driving Assistant including Surround View, the BMW Display Key and the Navigation system Professional. The main menu in the Control Display is now presented in the form of horizontally arranged tiles with a live mode.

The equipment options available include a model-specific BMW Head-Up Display, the non-dazzling BMW Laserlight with BMW Selective Beam and acoustic pedestrian warning.

Seamless connectivity with BMW Connected and ConnectedDrive. ConnectedDrive Services are also included as standard, providing access to functions such as Real Time Traffic Information and On-Street Parking Information, as well as Concierge Services. The BMW Connected personal mobility assistant interfaces the vehicle with the customer's selected touchpoints, such as a smartphone or smartwatch, via the flexible Open Mobility Cloud platform.

Numerous products and services offered as part of the 360° ELECTRIC portfolio are designed to help make electric mobility in the new BMW i8 Coupe and new BMW i8 Roadster a convenient and practical experience in everyday life. Both models are supplied with a mode 2 charging cable as standard that enables the high-voltage battery to be recharged from a standard domestic socket in under four-and-a-half hours. Hooking the vehicle up to a BMW i Wallbox allows charging to be performed at a rate of up to 3.6 kW and completed in under three hours. The BMW i Wallbox Connect makes it possible to utilise the globally unique BMW Digital Charging Service – the key to intelligent charging which either optimises cost efficiency or ensures preferential use of self-generated solar power.

10. Charging even easier than refuelling: BMW Wireless Charging.

At Auto China 2018 in Beijing, BMW is presenting yet another world first in the form of a factory-fitted inductive charging facility for the high-voltage battery in a plug-in hybrid vehicle. As part of the BMW Group's Number One Next strategy, the company is therefore once again leading the way in the development of groundbreaking charging technology that greatly enhances the ease of use and everyday practicality of electrified vehicles.
The BMW Wireless Charging option can be ordered with immediate effect for the BMW 530e iPerformance (petrol consumption combined: 2.1 – 1.9 l/100 km [134.5 – 148.7 mpg imp]; electricity consumption combined: 14.1 – 13.1 kWh/100 km; CO_2 emissions combined: 49 – 44 g/km) and the BMW 530Le iPerformance, which is built and sold in China – a market of key importance when it comes to electric mobility.

BMW Wireless Charging enables electric energy from the mains supply to be transmitted to a vehicle's high-voltage battery without any cables – when the vehicle is positioned over a base pad. This can be installed in the garage, for example, and the charging process started as soon as the vehicle has been parked in position (without any further input from the driver). The launch of this technology sees the BMW Group move another step closer to an infrastructure that will make charging the battery of an electrified vehicle even simpler than refuelling a car with a conventional engine.

Electromagnetic field is the key to contactless energy transfer.
Available to customers as an option, BMW Wireless Charging consists of a Inductive Charging Station (GroundPad), which can be installed either in a garage or outdoors, and a secondary vehicle component (CarPad) fixed to the underside of the vehicle. The contactless transfer of energy between the GroundPad and CarPad is conducted over a distance of around eight centimetres. The GroundPad generates a magnetic field. In the CarPad an electric current is induced, which then charges the high-voltage battery.

The system has a charging power of 3.2 kW, enabling the high-voltage batteries on board the BMW 530e iPerformance and BMW 530Le iPerformance to be fully charged in around three-and-a-half hours. And with an efficiency rate of around 85 per cent, charging with the BMW Wireless Charging system already is almost as efficient as charging with the use of a cable, where a rate of 92 per cent is achieved.

Inductive charging: the added convenience of no cables.
BMW Wireless Charging employs the same inductive charging technology already widely used for supplying power to devices such as mobile phones and electric toothbrushes to now also recharge the high-voltage batteries in electrified vehicles. The principal benefit here is the unrivalled ease of use, as drivers no longer need to hook up their plug-in hybrid car using a cable in order to replenish its energy reserves. Instead, as soon as the vehicle has been parked in the correct position above the inductive Charging Station, followed by a simple push of the Start/Stop button, the charging process is initiated. Once the battery is fully charged, the system switches off automatically.

BMW Wireless Charging also helps the driver to manoeuvre into the correct parking position. Via a WiFi connection a communication between the charging station and vehicle is being established. An overhead view of the car and its surroundings then appears in the Control Display with coloured lines that help guide the driver while parking. A graphic icon shows when the correct parking position for inductive charging has been reached. This can deviate from the optimum position by up to seven centimetres longitudinally and up to 14 centimetres laterally.

The GroundPad can also be installed outdoors, where it may be used regardless of the weather conditions. All components that conduct electricity are protected from rain and snow, and driving over the GroundPad will not damage it in any way. During charging, ambient electromagnetic radiation is limited to the vehicle undercarriage. The GroundPad is permanently monitored and will be switched off if any foreign matters are detected.
The BMW Group also offers an installation service for BMW Wireless Charging, on request.

The launch of BMW Wireless Charging is further proof of the BMW Group's ongoing commitment to creating a user-friendly and practical charging infrastructure. Back in 2015, the company was presented with the Momentum for Change Award from the United Nations in recognition of its achievements. In its role as one of the co-founders of the IONITY joint venture, the BMW Group is currently teaming up with other carmakers to set up a Europe-wide fast-charging network for electric vehicles that should boast around 400 stations by 2020. In addition, the ChargeNow service launched by BMW i now offers access to more than 130,000 charging points in 32 countries with a single registration.

11. Heading for the future with sound knowledge and strong partners: Automated driving at the BMW Group.

The progressive automation of driving will be a key element of the transformation that personal mobility is set to go through over the coming years. The driver assistance systems available in today's BMW and MINI models already offer extensive support in a variety of driving situations. The technology will continue to evolve, with first highly automated then fully automated driving, before finally progressing to autonomous driving, which will allow the task of driving to be delegated to the vehicle occasionally or even completely.

The BMW Group is doing everything possible to strengthen its development capabilities in the field of automated and autonomous driving. To this end, not only is the company able to draw on its many years of experience and sound knowledge, it also has the expertise of strong partners to call on. As long ago as 2006, a self-driving BMW 3 Series was completing laps around a race track, and the BMW Group has been testing out highly automated prototypes on the A9 motorway in Germany since 2011. Its stake in HERE, one of the world's leading technology providers in the navigation data sector, forms the basis for developing high-precision map material. And a collaboration with Intel and Mobileye is creating a digital ecosystem for the development of high-quality automated driving functions that are safe and secure. These will then be incorporated into series production development of the BMW iNext, for instance. At Campus Unterschleißheim, the BMW Group's new development centre for automated driving, the company is now pooling all of its expertise in the areas of vehicle connectivity and automated driving. Elsewhere, in 2018 a fleet of 80 BMW 7 Series cars will be adapted to serve as test cars in highly and fully automated driving trials.

From the Track Trainer to BMW Gesture Control Parking.
The BMW Group has already demonstrated its technological expertise in the field of automated driving on several occasions over the course of recent years. One particularly impressive example is the BMW Track Trainer that was presented back in 2006. This system enabled a self-driving BMW 3 Series to lap the circuit at Hockenheim on its own – while driving at race speeds and following the racing line. Since mid-2011, test vehicles from the BMW Group have been driving on the A9 motorway from Munich towards Nuremberg without any driver input. These research prototypes, which accelerate, brake and perform overtaking manoeuvres all by themselves, have been undergoing

systematic improvement ever since. As part of the research initiative Ko-HAF – a German abbreviation standing for Cooperative Highly Automated Driving – the BMW Group has been drawing up standards since 2015 that seek to provide additional verification of highly automated driving functions. This centres on the exchange of data between multiple highly automated vehicles to provide a reliable forecast of the traffic situation.

At the 2014 Consumer Electronics Show (CES) in Las Vegas, the BMW Group unveiled Drift Assistant technology for highly automated vehicle control when driving at the limits of performance. One year later at the same venue, a research vehicle based on the BMW i3 was on show that offered 360° collision prevention thanks to its comprehensive and fully reliable position detection and environmental sensing capabilities. This also opened up the possibility of fully automatic parking in multi-storey car parks. Here, the driver gets out of the car and the Remote Valet Parking Assistant guides the vehicle through the car park's different storeys unaided.

At the 2016 edition of the CES, the BMW Gesture Control Parking research application was presented. This enables fully automated manoeuvring of a BMW i3 into and out of parking spaces perpendicular to the road, and is triggered by a simple wave of the hand that is detected by a smartwatch and relayed to the car.

Technological development in three key areas.
The BMW Group is following a clearly defined strategy for automated and autonomous driving and has identified three key technological elements. High-definition (HD) live mapping is needed for determining positions with pinpoint accuracy. The reliable acquisition and real-time processing of information about the environment – and the ability to make safe decisions with regard to manoeuvres that are similar to those a human would reach – call for high-performance sensors, a supercomputer and intelligent software. Measures must also be taken to ensure the total integration in the vehicle of a system that is safe and has high availability.

The HD mapping includes information on the number of traffic lanes and on access roads or exit roads, for instance, as well as "landmarks" that have been surveyed exactly. By comparing this information against GPS data and camera images, the vehicle's position can be pinpointed to the exact lane at all times. Besides cameras and radar sensors, ultrasonic sensors and laser scanners are also used for highly accurate environmental sensing. This makes it possible to register other road users as well as objects and potential obstacles, and to assess them in terms of their type and size, position and distance, as well as speed and direction of movement. All the data is processed by a single data

centre that is housed in the boot of the current prototypes. This is where the driving strategy is computed that specifies how the vehicle should respond to the traffic situation and implements the necessary dynamic driving actions using the steering, accelerator and brakes.

Holdings and partnerships.
High-definition maps allow the forecasting horizon to be extended beyond the range of the sensors. This allows system limitations or situations that a highly automated vehicle – on extremely rare occasions – does not handle perfectly to be recognised at an early stage so that the task of driving can be delegated to the driver again in good time. High-precision maps therefore have an essential role to play in overcoming the enormous challenges of highly automated driving, which is why the BMW Group has acquired a stake in the digital map company HERE, for instance.

The location platform developed by HERE combines high-definition maps with location-based, real-time traffic information to provide the user with a detailed representation of the real world that is accurate to the second. This platform is based on HERE's industry-leading mapping technology and draws on information from a wide range of data sources, including vehicles, mobile phones, the transport and logistics sector and even infrastructure. In future, the plan is for data delivered by the sensors on several million vehicles to be combined to form a single data pool, which will help accelerate the development of a shared location platform. The next phase of development, to allow updating of HD maps via the BMW fleet, is now almost complete.

In July 2016, the BMW Group, Intel and Mobileye announced a wide-ranging collaboration. Since the start of this collaboration, the three companies have developed a scalable architecture that can be adapted by other manufacturers and developers so that they can pursue their own design objectives and achieve differentiation between brands. This non-exclusive platform offers an ecosystem for the development of autonomous driving.

Intel's contribution to the partnership is its innovative, high-performance computing solutions. What's more, Intel's world-leading processors and FPGA technologies can deliver the most efficient balance of processing speed and capacity, while still satisfying the stringent demands of the automotive industry in terms of heat build-up and safety. Mobileye brings to the table its patented EyeQ®5 high-performance computer vision processor, which offers world-leading image processing technology operating at the highest levels of energy efficiency and safety. The BMW Group and Mobileye are jointly developing related solutions in the field of sensor data fusion, in order to

provide a comprehensive model of the vehicle environment based on input from radar, camera, lidar and ultrasonic sensors. A driving policy based on artificial intelligence is also being developed to help with mastering the infinite number of complex driving situations.

The BMW Group's responsibility in these pioneering partnerships is to develop the core functions and the testing and safeguarding environment, including simulation. The company's contribution is also aligned to its business goals. BMW places particular importance on the design of the safety concept. This is because the company wants to provide other platform users with the best possible starting point for their own implementations, as well as establish fundamental confidence in the platform as it is developed.

Focused knowhow: the Unterschleißheim campus.
At the end of 2016, around 600 employees at the BMW Group were working on the development of highly automated driving. In 2018, the BMW Group is now pooling together all the company's vehicle connectivity and automated driving expertise at a new campus in Unterschleißheim near Munich.

The new development centre is set to facilitate agile, company-wide collaboration as well as helping to enable high levels of individual decision-making. Once the new facility is fully completed, there will be approx. 1,800 employees stationed there working on all the developments required for the next steps on the road to fully automated driving – from the software right through to road testing. Elsewhere, a total of 80 BMW 7 Series test vehicles for highly and fully automated driving on motorways and in urban environments will be built in 2018 and trials continued. These vehicles will be put into operation at Intel (USA), Mobileye (Israel) and BMW Group (Munich) facilities.

The next step: highly automated driving in the BMW iNext.
By developing these BMW 7 Series advanced prototypes collaboratively, the partners will ensure the timely roll out of the BMW Group's first highly-automated production vehicle – the BMW iNext, due in 2021. The BMW iNext is the BMW Group's first venture into highly-automated driving.
From a technical perspective, the BMW iNext will also be capable of fully automated and autonomous driving. Whether or not this is achievable in practice depends on a number of external factors, but it is not yet possible to predict how these will develop.

Delegating the responsibility for controlling the vehicle to the vehicle itself for a certain period of time is due to become permissible by law in Germany as well as in further countries in the near future. At present, the driver is

responsible for the task of driving at all times, even if they are allowed to take their hands off the steering wheel for a few seconds for a substantial strain-relieving effect on long journeys, in particular. While it is true that humans are responsible for most traffic accidents, at the same time they are the best preventers of accidents, too. Current systems already work very well, yet they are certainly not yet able to substitute human intelligence in certain situations. And the driver needs to be aware of this.

For this reason, the BMW Group is anxious to make it clear to its customers that the products currently available are driver assistance systems and names them accordingly. Technology has advanced to the stage where we are now on the cusp of highly automated driving. This doesn't just entail the further development of existing sensor systems, it also calls for a whole new understanding of safety, a stable cloud-based backend and highly dynamic HD mapping information. This represents a big and extremely challenging technological leap forward.

If a vehicle is to temporarily assume responsibility for controlling itself, then we need fail-operational systems, where a fault does not result in failure of the entire system. Brakes, steering and the electrical system that supplies them each require a double safeguard to ensure that the vehicle can continue to be driven in the event of a fault. The BMW Group together with its partners will complete these large-scale tasks by 2021.