

# The new BMW 5 Series Sedan. Contents.



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# The new BMW 5 Series Sedan. Model variants from launch.



## Model variants at market launch on 11 February 2017.

**BMW 530i/BMW 530i xDrive:** Four-cylinder petrol engine, eight-speed Steptronic transmission.

Capacity: 1,998cc.

Output: 185 kW/252 hp at 5,200 – 6,500 rpm.

Maximum torque: 350 Nm (258 lb-ft) at 1,450 – 4,800 rpm.

Acceleration (0–100 km/h [62 mph]): 6.2 s (6.0 s).

Fuel consumption, combined: 5.5 l/100 km [51.4 mpg imp] (6.0 l/100 km [47.1 mpg imp])<sup>\*</sup>.

CO<sub>2</sub> emissions, combined: 126 g/km (137 g/km).

**BMW 540i/BMW 540i xDrive:** Six-cylinder petrol engine, eight-speed Steptronic transmission.

Capacity: 2,998cc.

Output: 250 kW/340 hp at 5,500 – 6,500 rpm.

Maximum torque: 450 Nm (332 lb-ft) at 1,380 – 5,200 rpm.

Acceleration (0–100 km/h [62 mph]): 5.1 s (4.8 s).

Fuel consumption, combined: 6.5 l/100 km [43.5 mpg imp] (6.9 l/100 km [40.9 mpg imp])<sup>\*</sup>.

CO<sub>2</sub> emissions, combined: 149 g/km (159 g/km).

**BMW 520d/BMW 520d xDrive:** Four-cylinder diesel engine, six-speed manual gearbox/eight-speed Steptronic transmission (xDrive: eight-speed Steptronic transmission).

Capacity: 1,995cc.

Output: 140 kW/190 hp at 4,000 rpm.

Maximum torque: 400 Nm (295 lb-ft) at 1,750 – 2,500 rpm.

Acceleration (0–100 km/h [62 mph]): 7.7 s/7.5 s (7.6 s).

Fuel consumption, combined: 4.2 l/100 km [67.3 mpg imp] / 4.1 l/100 km [68.9 mpg imp] (4.5 l/100 km [62.8 mpg imp])<sup>\*</sup>.

CO<sub>2</sub> emissions, combined: 109 g/km / 108 g/km (119 g/km).

<sup>\*</sup> Fuel consumption figures were calculated according to the EU test cycle and may vary depending on the tyre format specified. Figures for BMW xDrive in brackets

**BMW 530d/BMW 530d xDrive:** Six-cylinder diesel engine, eight-speed Steptronic transmission.

Capacity: 2,993cc.

Output: 195 kW/265 hp at 4,000 rpm.

Maximum torque: 620 Nm (457 lb-ft) at 2,000 – 2,500 rpm.

Acceleration (0–100 km/h [62 mph]): 5.7 s (5.4 s).

Fuel consumption, combined: 4.5 l/100 km [62.8 mpg imp] (5.0 l/100 km [56.5 mpg imp])<sup>\*</sup>.

CO<sub>2</sub> emissions, combined: 118 g/km (132 g/km).

<sup>\*</sup> Fuel consumption figures were calculated according to the EU test cycle and may vary depending on the tyre format specified. Figures for BMW xDrive in brackets

## **Model variants from March 2017.**

**BMW 530e iPerformance:** Four-cylinder petrol engine plus BMW eDrive electric drive system (plug-in hybrid), eight-speed Steptronic transmission.

Capacity: 1,998cc.

System output: 185 kW/252 hp at 4,460 – 6,500 rpm.

Maximum system torque: 420 Nm (310 lb-ft) at 1,450 – 4,000 rpm.

Acceleration (0–100 km/h [62 mph]): 6.2 s.

Electric range: 45 km\*.

Fuel consumption, combined: 2.0 l/100 km (141.2 mpg imp)\*.

CO<sub>2</sub> emissions, combined: 46 g/km.

**BMW 520d EfficientDynamics Edition:** Four-cylinder diesel engine, eight-speed Steptronic transmission.

Capacity: 1,995cc.

Output: 140 kW/190 hp at 4,000 rpm.

Maximum torque: 400 Nm (295 lb-ft) from 1,750 rpm.

Acceleration (0–100 km/h [62 mph]): 7.5 s.

Fuel consumption, combined: 3.9 l/100 km (72.4 mpg imp)\*.

CO<sub>2</sub> emissions, combined: 102 g/km.

**BMW M550i xDrive:** Eight-cylinder petrol engine, eight-speed Steptronic transmission.

Capacity: 4,395cc.

Output: 340 kW/462 hp at 5,500 rpm.

Maximum torque: 650 Nm (479 lb-ft) from 1,800 rpm.

Acceleration (0–100 km/h [62 mph]): 4.0 s.

Fuel consumption, combined: 8.9 l/100 km (31.7 mpg imp).

CO<sub>2</sub> emissions, combined: 204 g/km.

Further information on official fuel consumption figures, specific CO<sub>2</sub> emission values and the electric power consumption of new passenger cars is included in the following guideline: "Leitfaden über Kraftstoffverbrauch, die CO<sub>2</sub>-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Guideline for fuel consumption, CO<sub>2</sub> emissions and electric power consumption of new passenger cars), which can be obtained from all dealerships, from Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen and at <http://www.dat.de/en/offers/publications/guideline-for-fuel-consumption.html>. LeitfadenCO<sub>2</sub> (GuidelineCO<sub>2</sub>) (PDF – 2.9 MB)

## Design and equipment. A stylish appearance and record-breaking aerodynamics.



The design of the new BMW 5 Series Sedan exudes athletic prowess, elegance and stylistic assurance. The new model therefore remains the quintessential sporting business sedan. "The new BMW 5 Series will make a mature, confidently stylish and dynamic impression at every opportunity. The formal and precise design combines presence, aesthetic appeal and functionality in equal measure," says Karim Habib, Head of Design BMW Automobiles. The exterior dimensions of the new car are only slightly larger than those of its predecessor. The new BMW 5 Series Sedan is 36 millimetres longer than the outgoing model (at 4,935 millimetres), six millimetres wider (1,868 millimetres) and two millimetres taller (1,466 millimetres). Its wheelbase measures 2,975 millimetres (+7 millimetres).

### **The front end: a more striking face, LED headlights as standard.**

The familiar BMW kidney grille, flanked by twin circular headlights, lends the front of the new BMW 5 Series a more eye-catching appearance. The glass headlight covers now connect seamlessly with the kidney grille, emphasising the car's width.

The standard LED headlights already make the BMW 5 Series a captivating prospect, its concentrated gaze locked onto the road. Adaptive LED Headlights alter the light graphic and can be specified as an option with BMW Selective Beam anti-dazzle high beam with a range of up to 500 metres. The LED tubes of the daytime driving lights are hexagonal and extend up to the kidney grille element, creating a stylistic connection which accentuates the wide, low-to-the-road appearance of the front end.

### **The side view: short overhangs, elongated silhouette.**

The new BMW 5 Series Sedan cuts a dynamic figure before it has so much as turned a wheel. The passenger cell is set back when viewed in relation to the long wheelbase and leads the eye over a flowing roofline to the rear end, while a short front overhang underscores the car's sporting appearance. "For the first time, the new BMW 5 Series Sedan brings together two traditional BMW design elements which are normally separate from one another. The swage line turns up as it heads rearwards, moving from shadow to light and sweeping up the Hofmeister kink in its path rather than continuing into the rear. This upwards motion lends the car a forward-surging character, and the expressive, swooping surface imbues it with an undeniable muscularity," explains Habib.

### **The rear: a visually lower centre of gravity.**

The low-slung, expressive and width-accentuating design of the rear end points to the dynamic, direct handling of the new BMW 5 Series Sedan. The rear lights reach deep into the sides of the car, creating a visual connection between its flanks and rear end. Cutting-edge LED bars enable a slim interpretation of the hallmark BMW “L” shape and underline the width of the new sedan. Other defining elements of the rear end include the exhaust tailpipes, which are now arranged symmetrically on both sides on all model variants. Depending on the engine and equipment package specified, the tailpipes will be circular, trapezoidal or rectangular and in a quartet.

### **Significantly lower drag coefficient sets the sedan benchmark.**

The BMW engineers carried out a large number of detail optimisations to reduce the drag coefficient of the new BMW 5 Series Sedan by 10 per cent compared to its predecessor and set a new sedan benchmark of  $C_d = 0.22$ . For example, all new BMW 5 Series models will now come with active air flap control for the radiator. This system opens the louvres in the kidney grille elements and lower air intakes when more cooling air is required, but otherwise keeps them closed to optimise aerodynamic efficiency.

The Air Curtains in the front apron team up with Air Breathers to cut air turbulence in the wheel arches significantly and channel the onrushing air effectively as the car pushes through it. A further improvement in the drag coefficient comes courtesy of optimised trim and airflow-channelling elements fitted across the whole of the underbody; these provide a considerable degree of underbody sealing. Another consequence of these measures is a reduction in lift, which enhances dynamics.

### **A total of 21 colours, wheels in 17-inch to 20-inch sizes.**

Two non-metallic and 11 metallic colour shades are available for the new BMW 5 Series, and six BMW Individual paint finishes and two BMW Individual Frozen paint finishes will join the selection over the course of 2017. Customers can choose from a total of 17 different light-alloy wheels (17-inch to 20-inch). And the Original BMW Accessories range offers another three complete wheel sets in 20-inch format.

### **Distinctive looks: the Sport Line and Luxury Line.**

BMW offers the Sport Line and Luxury Line equipment packages for the BMW 5 Series, allowing it to be tailored as closely as possible to the customer's personal wishes.

Sport Line shines the spotlight on the car's dynamic character and stands out with numerous trim elements in high-gloss black and line-specific 18-inch

light-alloy wheels (optional 19-inch) in a bi-colour polished finish. Opening the doors reveals illuminated aluminium door sill strips with a BMW logo and Sport Line badge. For the interior, Sport Line adds BMW sports seats with cloth/leather covers in the front, a BMW sports leather steering wheel and specific trim strips.

Luxury Line emphasises the car's elegant character with features such as chrome kidney grille bars, Air Breathers and window surrounds. Line-specific light-alloy wheels (standard: 18-inch, optional: 19-inch) underscore its exclusive looks. The aluminium door sill strips with BMW logo bear Luxury Line lettering. Leather covers with contrast stitching and special decorative inlays shine an even brighter light on the high-class character of the interior. The instrument panel is covered in Sensatec.

**M Sport package adds extra dynamic allure.**

The M Sport package will be available from launch for the new BMW 5 Series. It includes the M aerodynamic package (front apron with larger air intakes, side skirt trim, a diffuser-style rear apron and an exhaust system with two rectangular tailpipes), lowered M Sport suspension and M light-alloy wheels in 18-inch (optional 19-inch) format. Inside the car, M sports seats with Alcantara covers highlight its sporting focus and are joined by the new M Sport leather steering wheel, exclusive floor mats, interior trim strips and aluminium pedals.

All equipment lines and the M Sport package also offer customers the option of Sensatec covering in the colour shade Coffee for the instrument panel and shoulder area of the side door panel trim.

## Interior and controls. The very latest in ease of use.



The interior of the new BMW 5 Series Sedan strikes a fine balance between sporty driver focus on the one hand and sophisticated elegance on the other. Top-class materials, supreme build quality and attention to detail, a great feeling of spaciousness and new technologies in abundance combine to offer both driver and passengers comfort and driving pleasure of the highest order. “In the seventh model generation, we have upped the precision and the quality of finish considerably and revolutionised the display and control concept. The result is a BMW 5 Series that once again hits the mark as the ideal business sedan,” says Adrian van Hooydonk, Senior Vice President BMW Group Design.

### **Luxury travel: more freedom of movement, low noise levels.**

The low roof line flows smoothly into the tail end, but the new BMW 5 Series nevertheless offers noticeably more headroom in the rear as well as an increased boot capacity of 530 litres. The car feels much roomier inside, something which can be attributed not just to the lowered instrument panel and free-standing display, but also to the cabin’s enlarged dimensions, particularly in terms of elbow and shoulder room. Passengers in the rear now have more space to spread out, thanks to the increased kneeroom and extended legroom, while the optimised design of the door cut-outs makes getting in easier than ever.

The headliner with built-in soundproofing forms part of the interior’s acoustic design measures. The sound absorbers incorporated into the liner eliminate interfering sounds in the particularly sensitive area close to the occupants’ heads. This results in greater comfort in general, but is particularly effective at allowing the driver and passengers in the rear to talk to each other more intelligibly.

The stowage pockets in the doors are now able to hold drink bottles up to one litre in size. The cupholders in the centre console are positioned more deeply, ensuring clear access to the controls above at all times, even when they are holding bottles. The extra storage compartment in front of the cupholders can be specified with a wireless charging function for mobile phones as an option (see also “BMW ConnectedDrive and business technologies” starting on page 23).



### **Seats with massage function, room for up to three child seats in the rear.**

Even the standard front seats are electrically adjustable and offer tremendous safety and comfort together with a wide choice of materials, plus special decorative stitching and quilting for the optional Dakota and Nappa leather trims. The optional sports seats feature adjustable side bolsters for optimum lateral support through even quickly-taken corners. The multifunction seats, which are available with a massage function, represent the pinnacle in comfort. Eight different massage programmes, each with a choice of three intensity modes, relax the muscles in the back and relieve the strain on the spinal discs while driving. The eight programmes are subdivided into three categories: Mobilisation, Relaxation and Vitality. The massage function uses 20 air chambers incorporated into the seat backrest and cushion, which are alternately inflated and deflated. The driver is furthermore able to set temperature thresholds for activating the seat heating and seat ventilation, as well as the steering wheel heating – a highly convenient feature which starts heating or ventilation automatically when the temperature falls below or rises above the respective limit.

There is room for up to three adults on the rear seats. When the middle seat isn't occupied, passengers in the rear can make use of the centre armrest and its integral cupholders. A through-loading system can be added as an option. The rear seat is designed to allow room for up to three child seats (the two outer places have ISOFIX attachments).

### **Contact sensors for the seat control.**

Using the multitude of seat adjustment options has been made as easy as possible to allow the driver and front passenger to get as comfortable as possible. The new seat adjustment switches with touch-sensitive sensors are a major help here. When a finger touches the switch located on the outside edge of the seat, thereby activating one of its five sensors, the corresponding menu opens in the central display. Lightly pressing on the switch again then carries out the desired adjustment, all clearly illustrated by a matching animation in the display.

### **Gesture control, voice control, touchscreen and iDrive Controller.**

Gesture control for key functions was premiered last year in the BMW 7 Series, and the BMW 5 Series now features the latest version of this system. Navigation, telephone, entertainment features and vehicle functions can be visualised on the optionally available high-resolution 10.25-inch screen and controlled not just in the usual manner using the iDrive Controller, but also by means of gestures, voice commands or simply touching the buttons on the display.

These buttons, which are clearly arranged in a total of six large pads over two screen pages, provide the driver with direct access to functions as well as a live display of the associated content. The button for the entertainment programme, for example, shows the song that's currently playing complete with album cover, and when the navigation function is active the driver can see the route the vehicle is taking in the main menu's navigation button pad. If the driver now touches this map section, the navigation screen opens, showing the detailed map view. Touching a pad's header line, on the other hand, opens the respective function's main menu, in this case the navigation menu. It is therefore possible to access the desired content swiftly and surely. The two sets of three pads can be rearranged as desired, allowing drivers to position the menus they use most in the first screen. One of the new button functions is a message centre, where all incoming SMS messages, emails and information about the car's operating state can be found.

Users select menu options and the associated functions in the usual way with the iDrive Controller or by simply tapping the button on the touch display with their finger.

The new BMW 5 Series can also be operated by means of gestures or voice control, as the driver prefers. BMW gesture control offers a particularly intuitive and easy way of operating commonly used infotainment system and telephone functions. All that is needed are simple movements of the hand or fingers, which are detected by a 3D sensor in the vicinity of the centre console and translated into commands: pointing at the screen with the index finger is all it takes to accept a phone call, for instance, while a swiping motion with the hand rejects it. The swiping action can also be used to open submenus. Tracing a circle with the index finger adjusts the audio system's volume, and the driver can pull their thumb and index finger away from the navigation map towards them to zoom in on that section of the map. And the two-finger victory sign can be used to carry out an individually selectable command, such as instructing the navigation system to start route guidance to the home address or skipping to the next track in a playlist.

More functions than ever before can be controlled using gestures in the new BMW 5 Series Sedan. The voice dialogue system can also be started and terminated in this way, for instance, and the navigation system option "Resume route guidance" confirmed or declined.

The Intelligent Voice Assistant offers the most advanced level of natural voice control currently available. Instead of having to use set spoken commands, the driver can formulate their request in everyday language and simply ask, for example, where the nearest Italian restaurant is. Besides German and English,

the most sophisticated generation of the Voice Assistant also understands Chinese, French, Spanish, Italian, Portuguese and Japanese, depending on where the vehicle is being delivered to.

### **Latest-generation multicolour Head-Up Display.**

In the new BMW 5 Series, drivers can see the most pertinent information on current traffic conditions, navigation instructions, warnings from the driver assistance systems, phone lists and the track currently being played by the infotainment system without having to avert their gaze from the road. This is thanks to the latest generation of the BMW Head-Up Display, which projects a wealth of information onto the windscreen as and when it is required. With a resolution of 800 x 400 pixels, the projection area is around 70 per cent larger than in the outgoing model, resulting in even more relaxed driving with complete concentration on the road ahead.

### **A good climate at all times, air ionisation and Ambient light.**

The new BMW 5 Series Sedan is equipped as standard with two-zone automatic climate control featuring independent temperature control for driver and front passenger. A version with extended functionality is available as an option, with features such as automatic activation of the air recirculation function, for instance when driving through a tunnel. Also on the list of optional extras is a four-zone climate control system that allows passengers in the rear to adjust the temperature, air distribution and airflow using a separate control console.

The Ambient Air package uses ionisation to ensure the air inside the passenger compartment is of the highest quality. Besides ionising the air, the package also comprises a unit for fragrancing the vehicle interior with selected scents. Three levels of intensity can be set for the fragrancing, and there is a choice of eight scents in all. These come in the form of cartridges that are plugged into the system inside the glove compartment. There are connections here for two different scent cartridges.

The optional Ambient light function also serves to enhance the occupants' sense of wellbeing. The coloured LED light provides harmonious illumination of the interior and accentuates its design contours, particularly around the instrument panel and the doors. There is a choice of eleven different lighting effects with six different light colours, and the brightness can also be adjusted individually.

### **Surround sound delivers flawless listening pleasure.**

A surround sound system from Bowers & Wilkins with diamond tweeters is available for the first time in the new BMW 5 Series range. This optional high-

end audio system is renowned for delivering the ultimate in listening pleasure. The 10-channel amplifier feeds a total of 16 speakers with brushed stainless steel grilles sporting the exclusive Fibonacci-patterned holes, which illuminate when the system is switched on. Total output is an impressive 1,400 watts. A measuring microphone is built into the car to allow the acoustics to be precision tuned to the specific conditions – for example, the number of occupants – in order to create a flawless surround sound experience for everyone in the car. What's more, the sound setting can be matched to the selected music genre.

Alternatively, there is the option of a nine-channel sound system with 16 speakers and a total output of 600 watts from Harman Kardon, as well as an eight-channel system with 12 speakers. The Professional radio with twin tuner fitted as standard comes with six speakers.

The optional Rear-seat entertainment Professional system offers occupants in the rear the luxury of two independently controlled, high-resolution 10.2-inch screens with DVD player, which also include connections for MP3 players, USB devices, games consoles and headphones. Passengers can also access the vehicle's entertainment functions, such as the TV, radio or the DVD changer, as well as surf the internet or use their phone.

**Luggage compartment: ample proportions and easy loading.**

The new BMW 5 Series Sedan boasts a larger, 530-litre boot. The boot sill has been lowered compared to its predecessor, which combines with the larger boot opening and the substantial increase in width to ensure that even bulky items can be loaded more easily than ever. Luggage capacity can be increased with the optional through-loading facility, which allows the rear backrest to be folded flat with a 40:20:40 split. Also available as an option is the automatic opening and closing function, which is triggered with either the key or a carefully aimed flick of the foot when standing at the rear of the car.

# Powertrain and EfficientDynamics. More driving pleasure, less fuel consumption.



The seventh model generation of the BMW 5 Series places the focus firmly on driving pleasure. This is in no small part down to its state-of-the-art engines, which form the basis for both sharper performance and lower fuel consumption figures. Not only does the new BMW 5 Series Sedan surpass its predecessors in both of these disciplines, it leads the way in the segment as a whole. A choice of two petrol and two diesel power units with four and six cylinders will be available from launch.

## **New engine family with BMW TwinPower Turbo technology.**

All members of the newly developed, modular BMW EfficientDynamics engine family feature an extremely lightweight, thermodynamically optimised all-aluminium construction. Thanks to their unrivalled BMW TwinPower Turbo technology, they meld maximum power with exemplary efficiency, and all comply with the EU6 emission standard.

The petrol units employ TwinScroll turbocharging, High Precision Injection, Double-VANOS variable camshaft control and Valvetronic fully variable valve timing. The diesel models, meanwhile, feature a turbocharger with variable turbine geometry and latest-generation common-rail direct injection, which generates injection pressure of up to 2,500 bar. The diesel exhaust systems operate using BMW BluePerformance technology, which combines close-coupled particulate filters and oxidation catalysts with a NO<sub>x</sub> storage catalyst. Exhaust gas aftertreatment in all diesel models is performed with the aid of SCR technology, including a water-cooled metering module for the AdBlue fluid, which serves to cut nitrogen oxide emissions still further. AdBlue can now also be replenished from special pumps at filling stations, allowing the reservoir to be topped up more quickly and conveniently.

## **BMW 530i and BMW 540i: new four and six-cylinder petrol engines.**

The new two-litre four-cylinder in-line engine in the BMW 530i supersedes the petrol unit previously fitted in the BMW 528i. The turbocharged direct injection engine delivers its peak output of 185 kW/252 hp (up 5 kW/7 hp on its predecessor) between 5,200 and 6,500 rpm, and puts its maximum torque of 350 Nm (258 lb-ft) on tap from 1,450 rpm all the way up to 4,800 rpm. Average fuel consumption works out at 5.5 l/100 km (51.4 mpg imp)\*, equating to CO<sub>2</sub> emissions of 126 g/km. CO<sub>2</sub> emissions have therefore dropped by around 11 per cent compared to before. The BMW 530i sprints

\* Fuel consumption figures based on the EU test cycle, may vary depending on the tyre format specified.

from 0 to 100 km/h (62 mph) in 6.2 seconds and reaches a top speed of 250 km/h (155 mph).

The range-topping engine for the time being can be found in the new BMW 540i and generates 250 kW/340 hp (+25 kW/34 hp) between 5,500 and 6,500 rpm. The three-litre straight-six musters up a mighty 450 Nm / 332 lb ft of torque (+50 Nm/37 lb-ft) from 1,380 – 5,200 rpm. Despite the superior output and the resulting extra dose of dynamic ability, average consumption is a frugal 6.5 l/100 km (43.5 mpg imp)\*. CO<sub>2</sub> emissions come in at 149 g/km\*, a reduction of eleven per cent over the outgoing model. The sedan powers from 0 to 100 km/h (62 mph) in just 5.1 seconds and top speed is electronically limited to 250 km/h (155 mph). The all-wheel-drive BMW 540i xDrive sets a new class-beating time of 4.8 seconds for the sprint from 0 to 100 km/h (62 mph). Its fuel consumption is 6.9 l/100 km (40.9 mpg imp) and CO<sub>2</sub> emissions come in at 159 g/km\*.

#### **BMW 520d and BMW 530d: four and six-cylinder diesel engines.**

The four-cylinder diesel unit powering the BMW 520d has an output of 140 kW/190 hp at 4,000 rpm and unleashes its maximum torque of 400 Nm (295 lb-ft) between 1,750 and 2,500 rpm. Gearshifts are made with either a six-speed manual transmission or the eight-speed Steptronic. Fuel consumption with the eight-speed Steptronic comes in at just 4.1 l/100 km (68.9 mpg imp)\*, resulting in CO<sub>2</sub> emissions of 108 g/km. The sedan accelerates from 0 to 100 km/h (62 mph) in 7.7 seconds and clocks a top speed of 238 km/h (148 mph).

The ongoing development of BMW TwinPower Turbo technology has endowed the new BMW 530d with added dynamism and efficiency. With output peaking at 195 kW/265 hp at 4,000 rpm (+5 kW/7 hp) and formidable maximum torque of 620 Nm / 457 lb-ft (+60 Nm +44 lb-ft) from 2,000 – 2,500 rpm, the straight-six engine outstrips the model it replaces by some margin. Yet despite its impressive performance figures, the BMW 530d makes do with 4.5 litres of fuel per 100 km (62.8 mpg imp)\* on average, equating to CO<sub>2</sub> emissions of 118 g/km. This represents a reduction of over 12 per cent compared to its predecessor. The new BMW 530d completes the 0 to 100 km/h (62 mph) sprint in 5.7 seconds, and its top speed is electronically limited to 250 km/h (155 mph).

#### **SYNTAK: cutting-edge acoustic capsule for engine and transmission.**

BMW has used the SYNTAK (Synergy Thermoacoustic Capsule) technology in the new BMW 5 Series to reduce powertrain noise. The lightweight soundproofing materials encapsulating the engine and transmission team up

\* Fuel consumption figures based on the EU test cycle, may vary depending on the tyre format specified.

with a series of inventive touches to lower volume levels, while also producing considerable weight and fuel savings. SYNTAK improves the powertrain's heat retention, which in turn leads to reduced fuel consumption.

### **BMW xDrive for all engine and suspension versions.**

All the engines available at launch can link up with BMW xDrive intelligent all-wheel drive. Besides the familiar handling benefits of all-wheel drive in adverse weather conditions, the system also enhances the agility and precision for which BMW is renowned, especially through corners. BMW xDrive counteracts oversteer and understeer effectively and increases the car's dynamic handling abilities when turning into corners or eagerly powering out of tight hairpin bends. The BMW all-wheel-drive system therefore provides the perfect blend of dynamism, directional stability and comfort. The transfer case in the new BMW 5 Series also works more efficiently, helping to keep fuel consumption to a minimum. For the first time, BMW xDrive can be combined with Integral Active Steering as well as lowered sports suspension.

The six-speed manual gearbox fitted in the BMW 520d is notable for its smooth operation, precise shifting action and optimum gear ratio spacing, while the automatic boasts exceptional shift comfort, sporty, dynamic gear changes and supreme efficiency. The Sport variant of the eight-speed Steptronic available as an additional option for the new BMW 5 Series Sedan features even more dynamic shift characteristics along with shift paddles on the steering wheel for changing gear manually.

### **A low-CO<sub>2</sub> model, a plug-in hybrid and a sporty eight-cylinder.**

Shortly after the new 5 Series is launched, BMW will add a further three engines to the line-up, including new entry-level and range-topping models. Under the bonnet of the BMW 520d EfficientDynamics Edition with eight-speed Steptronic lies the most efficient incarnation of the 140 kW/190 hp four-cylinder diesel unit, which helps the sedan to achieve the lowest CO<sub>2</sub> emissions in its class. With fuel consumption of just 3.9 l/100 km (72.4 mpg imp)\*, meaning CO<sub>2</sub> emissions of 102 g/km, the BMW 520d EfficientDynamics Edition ranks as the most efficient car in its segment.

A plug-in hybrid version of the BMW 5 Series Sedan will likewise be launched in March in the form of the BMW 530e iPerformance. The BMW eDrive system and a four-cylinder petrol engine work in perfect unison to achieve ultra-low CO<sub>2</sub> emissions of just 46 g/km\*, while generating overall output of 185 kW/252 hp. Fuel consumption of 2.0 l/100 km (141.2 mpg imp)\* sets new standards. The BMW 530e iPerformance can reach a top speed of 140 km/h (87 mph) in all-electric mode and has an electric range of 45 kilometres (28 miles).

\* Fuel consumption and range figures are provisional and based on the EU test cycle, may vary depending on the tyre format specified.

Making its debut at the same time will be the sporting flagship in the new BMW 5 Series range: the BMW M550i xDrive, whose V8 engine with an output of 340 kW/462 hp and maximum torque of 650 Nm (479 lb-ft) creates a fabulous impression, not just on account of its remarkable power reserves and the resulting scintillating performance, but also with its efficiency (fuel consumption combined: 8.9 l/100 km [31.7 mpg imp]; CO<sub>2</sub> emissions combined: 204 g/km)\*. The BMW M550i xDrive races from 0 to 100 km/h (62 mph) in a fleeting 4.0 seconds.

### **Navigation-assisted shift strategy and Proactive Driving Assistant.**

Besides the fuel-efficient power units, various other efficiency-enhancing details have been included to make sure that the new business sedan doesn't just stand out for its dynamic performance, but also leads the way in fuel economy and emissions.

This is exemplified by the ECO Pro mode with Proactive Driving Assistant, which can be activated with the Driving Experience Control switch. It is interlinked with the Navigation system Professional, enabling it to detect braking situations in advance – such as when entering built-up areas, speed limit zones, corners and filter lanes – and prepare the drive system accordingly. Such measures are accompanied by intelligently controlled energy and climate management, with the active air flap system in the new BMW 5 Series allowing even more variable control of the cooling air for the engine, brakes and air conditioning to suit the situation. Aside from its aerodynamic benefits, the system also shortens the engine's warm-up phase and makes sure that heat is retained for longer after the engine has been switched off.

The Auto Start Stop function is a perfect example of the advanced degree of connectivity in the new BMW 5 Series, as it uses information from the navigation system, stereo camera and radar to prevent the engine from being switched off in situations where that would be inefficient or unwarranted, such as at roundabouts or T-junctions. The result is a clearly noticeable increase in driving comfort in real-world use. The coasting function also does its bit to lower fuel consumption, particularly when travelling at higher speeds.

Ultimately, however, the Driving Experience Control switch (more details of which can be found in the "Chassis and assistance systems" chapter starting on page 17) always lets drivers decide whether they want to adopt a sportier driving style or focus more on fuel efficiency for the journey ahead.



# Chassis and driver assistance systems. The highest standards in driving dynamics and safety.



With a redesigned chassis, intelligent lightweight engineering, BMW's renowned even weight distribution and a highly torsion-resistant body, the seventh generation of the BMW 5 Series combines superb driving enjoyment with a new dimension in driver assistance technology, while once again setting a new class benchmark in driving dynamics. The BMW engineers have succeeded in making the car's handling even more agile and precise, yet without compromising the comfort which is a hallmark of this business sedan. At the same time, an extensive range of driver assistance systems take the BMW 5 Series Sedan a big step further down the road to automated driving.

"The BMW 5 Series is the most successful business sedan on the planet. It brings together sporting agility, presence and comfort like no other vehicle. With the new generation of the car we are once again setting the benchmark in all areas; it combines dynamic excellence and comfort to the best possible effect. Plus, the new 5 Series Sedan is at the leading edge of technology when it comes to driver assistance and connectivity. So it promises to remain the most successful business sedan in the market," says Klaus Fröhlich, Member of the Board of Management at BMW AG, Development.

## **Double-wishbone front suspension and five-link rear suspension.**

The wheelbase of 2,975 millimetres (+7 mm), and front and rear track width of 1,605/ 1,630 millimetres (+5 mm/+3 mm), show a slight increase over the previous 5 Series. The new double-wishbone front axle's kinematics are perfectly configured for a long-distance sedan. Extensive use of light-metal components keeps unsprung mass as low as possible, while separating the construction into an upper and a lower control arm level gave the engineers considerable freedom to fine-tune the balance between dynamics and comfort. The spring struts are not required to perform wheel location functions, so only have to handle minimal transverse forces. The suspension therefore delivers finely judged responses to bumps in the road. With small kinematic lever arms that minimise disturbance torque around the steering axis, the new BMW 5 Series Sedan offers the driver excellent steering feel with clear feedback. The rear suspension and double-wishbone front suspension work together to provide excellent anti-roll control when cornering, but never at the expense of ride comfort.

Light-metal components are also used extensively in the new five-link rear suspension, which is even lighter and stiffer than in the previous model and provides precise wheel location and excellent tracking stability in all driving situations. The specially calibrated elastokinematics, the large axle subframe mounting and supporting system, the thrust arms connecting the suspension and body and the high structural stiffness combined with low unsprung masses create an excellent overall balance between agility and comfort. The large mounting and supporting system also plays an important part in ensuring good acoustic insulation between the powertrain and suspension. Thanks to this efficient decoupling, the new rear axle also contributes to the excellent acoustic comfort on board the BMW 5 Series Sedan.

### **Integral Active Steering now also available in combination with BMW xDrive.**

The driving enjoyment and agility laid on by the new BMW 5 Series are further enhanced by the precise steering system, which always gives the driver accurate feedback. This electromechanical system features a variable steering ratio and speed-sensitive power assistance. Optionally, the BMW 5 Series can now also be equipped with a revised – now electromechanical – Integral Active Steering system, with steering rear wheels for extra agility, stability and comfort. Integral Active Steering gives the new BMW 5 Series Sedan excellent directional stability on motorways, while around town the steering action is pleasingly light and agile. Integral Active Steering can now also be combined with BMW xDrive.

### **Tailored dynamics and comfort for suspension and brakes.**

The new BMW 5 Series is fitted with optimised lightweight brakes. Depending on the model variant, they feature single-piece or two-piece four-piston fixed aluminium callipers at the front, with lightweight discs, and single-piston fixed callipers with an integrated electromechanical parking brake at the rear. All the key driving dynamics systems are standard specification. The business sedan rides on 17-inch light-alloy wheels as standard, with 20-inch wheels optionally available.

Lowered M Sport suspension is optionally available, and is now combinable with BMW xDrive. The Dynamic Damper Control system, which is equipped with new valves and an optimised control algorithm, matches the damping characteristics to the road surface and driving situation. At the same time, the Driving Experience Control switch allows drivers to choose between a sportier or more relaxed basic suspension setting.

### **Debut for electromechanical anti-roll stabilisation.**

The optional Adaptive Drive system, which combines Dynamic Damper Control with Dynamic Drive active roll stabilisation, provides unsurpassed dynamics and comfort. In contrast to the previous roll stabilisation system, the anti-roll bars are now no longer actuated hydraulically but by means of electric swivel motors. The new system is fast-acting and precise, is lighter overall in weight and is much more frugal in its energy consumption. As well enhancing the driving dynamics of the business sedan, Dynamic Drive also improves comfort in straight-line driving, by actively countering bump disturbances affecting only one side of the car. On winding roads, the new BMW 5 Series Sedan offers even greater precision and agility that makes for excitingly nimble handling whenever sporty driving is required. By automatically adjusting to a wide range of driving conditions, Adaptive Drive enhances handling safety and stability, and provides excellent suspension comfort.

### **New modes and functions for Driving Experience Control.**

The Driving Experience Control switch allows drivers to choose between sporty, comfortable or extra-fuel-efficient vehicle settings, depending on the driving situation and personal preference. On the new BMW 5 Series, this system comes with a further expanded range of functions, offering an even wider spectrum of configurations and even greater differentiation of the driving experience.

These modes – Comfort, Sport, ECO PRO and, optionally, Adaptive (if Dynamic Damper Control and the Navigation system Professional are specified) – can be selected at the touch of a button. Each mode activates a predefined set-up for the relevant powertrain and chassis components. The Sport and ECO PRO modes can be further differentiated using the iDrive Controller, which now allows the powertrain and chassis settings to be configured separately. In the new Adaptive Mode, the steering, Dynamic Damper Control and Steptronic transmission are automatically adapted to the driving style and, depending on vehicle specification, also to the route. The control logic reacts to inputs such as accelerator and steering commands, or gear selector position, to vary the powertrain and chassis characteristics between sporty and more relaxed. Also, data supplied by the Navigation system Professional is used to proactively adapt the settings to take account of upcoming bends and intersections, or different types of road, such as motorways or single-carriageway main roads.

### **State-of-the-art driver assistance systems for maximum comfort and convenience.**

With its unusually extensive range of driver assistance systems, the new BMW 5 Series supports the driver both when performing routine tasks and in

complicated or difficult driving situations. They improve driving comfort and safety and take the new BMW 5 Series a big step forward on the road to automated driving. The new BMW 5 Series features an unusually large number of automated functions for a vehicle in this segment. These functions monitor the vehicle's environment using a combination of a standard-fitted camera mounted on the windscreen near the rear-view mirror and optional radar and ultrasound sensors.

### **Active Cruise Control for all driving situations.**

Dynamic Cruise Control (DCC), which is standard on the BMW 5 Series Sedan, maintains any selected speed between 30 and 250 km/h (19 - 155 mph). It also supports energy-saving coasting by decoupling the engine from the powertrain when the driver lifts off the accelerator at higher speeds. Meanwhile, the functionality of the optional Active Cruise Control (ACC), which uses radar to adjust the pre-selected speed to the traffic situation, has been extended. The system operates at all speeds between 0 and 210 km/h (130 mph) – that is to say it is capable of braking to a standstill in stop-start traffic, and automatically moving off again when the sensing system detects that the vehicle in front is pulling away. Depending on the driving situation, the vehicle can move off again automatically anything up to 30 seconds after coming to a stop. This makes for much less stressful driving, particularly on motorway-type roads. The ACC system now also takes into account motorway exits and roundabouts, where it adjusts the acceleration dynamics to suit these special traffic situations. Also, the control technology goes further in monitoring not only the vehicle immediately in front, but the one in front of that as well, so that vehicle speed can be adjusted earlier and more smoothly. Random heating ensures that the front-mounted radar sensor remains fully operational for longer, even if snow is falling.

### **Incorporating speed restrictions into ACC.**

The optional Speed Limit Info system shows speed restrictions on the current route segment in the display. The stereo camera reads the roadside traffic signs and also takes into account conditional speed limits – such as restrictions which only apply during certain hours or in wet weather – and overtaking restrictions. A further optional system, Speed Limit Assist, allows the speed limits to be incorporated into the cruise control system. It also allows drivers to set a degree of leeway in terms of how close to the maximum permitted speed they wish to drive. This margin can be set within a range of -15 km/h to +15 km/h (-9 to +9 mph). If the Navigation system Professional is specified, Speed Limit Assist can also take into account speed restrictions further along the driver's route, encouraging a more proactive driving style.

Via ConnectedDrive Services, the car transmits detected speed limits to the BMW backend, which uses this information to update the on-board navigation map in real time. This way the driver is always informed in good time about upcoming restrictions, as well as receiving information about hazards via Real Time Traffic Information (RTTI).

### **Hazard preview based on car-to-car communication.**

If vehicles which are part of the inter-connected BMW fleet detect a hazard, for example an accident, a broken-down vehicle, dense fog, heavy rain or ice, this information is immediately relayed to the BMW backend and incorporated in the form of a hazard preview into the navigation system and screen of vehicles in the immediate vicinity, alerting them in advance to the upcoming danger.

### **Lane-change assistance and side collision protection.**

The optional Driving Assist Plus safety package for the new BMW 5 Series Sedan comes with a host of new functions. These include the Lane Keeping Assistant, which helps the driver pre-empt hazards by automatically applying corrective steering in three types of situation: if the system detects that the vehicle is about to leave the road, if the driver is about to change lane and has overlooked a vehicle in the next lane or if danger is detected due to an approaching vehicle.

The Lane Departure Warning system operates at speeds between 70 and 210 km/h (44 – 130 mph). If the stereo camera detects that the vehicle is straying from its lane, it actively helps the driver steer back on course with smooth and seamless steering interventions. Lane Change Warning steers the vehicle back into its lane if its sensors detect another vehicle in the next lane, for example in the driver's blind spot. Finally, Side Collision Warning, which operates at speeds between 30 and 210 km/h, warns drivers by means of a visual signal or steering wheel vibration if another vehicle is encroaching from the side. If the system detects sufficient room on the other side of the vehicle, it correctively steers the vehicle in this direction and so out of the danger zone. This corrective steering assistance can be overridden at any time by the driver.

The Lane Change Assistant can operate at speeds between 70 and 180 km/h (44 – 112 mph), offering comfort-enhancing steering assistance when changing lanes on motorways or dual carriageways. When the Steering and lane control assistant is active, the Lane Change Assistant can be activated by a long press of the direction indicator. The vehicle then uses its sensors to check that there is an available opening in the next lane and that no other

vehicle is approaching at high speed in that lane. If it is clear to pull out, the Steering and lane control assistant aids the lane change manoeuvre.

**Evasion aid: evasive steering around obstacles.**

Another new function contained in the Driving Assist Plus package is the evasion aid. If a swift lane change is required because an obstacle has suddenly appeared in the driver's path, the evasion aid – which operates at speeds up to 160 km/h (99 mph) – supports the necessary evasive steering action. Faster steering and countersteering during an evasive manoeuvre results in less vehicle instability. Safety in such situations is further enhanced by the standard-fitted Dynamic Stability Control (DSC). While executing the manoeuvre, the evasion aid also uses information from the vehicle's sensor systems to check how much unobstructed space is available around the vehicle. At speeds over 160 km/h (99 mph), the system no longer provides actual steering input and instead focuses on maximising vehicle stability.

**Steering and lane control assistant: automated steering.**

Another system that provides an early foretaste of automated driving is the Steering and lane control assistant. This system already features a high level of automation. It operates in the speed range from 0 to 210 km/h (0 - 130 mph) and uses smooth, comfort-enhancing steering interventions to help the driver stay within the current lane. The latest generation of the system features further improved image recognition and evaluation technology to offer reliable assistance when it comes to keeping the vehicle on course, even if the road markings are unclear. For example, it is capable of detecting yellow lane markings, say when travelling through road works. In certain situations, particularly in stop-start traffic, the system also uses the preceding vehicle as an additional reference point. In very heavy or stop-start traffic, or on monotonous sections of motorway, the Steering and lane control assistant reduces driving stress. The system's hands-on-wheel detection is very sensitive, and can identify hand contact even when only a few fingers are in contact with the wheel.

**Warning of priority infringement, travelling the wrong way down a road and crossing traffic.**

Like the two functions mentioned above, Priority warning is also part of the optional Driving Assist Plus package. It provides visual and audible warnings if the driver has failed to notice that vehicles in another road have priority. Simultaneously the brake system is primed so that the braking distance can be reduced to a minimum. Using the standard-fitted stereo camera, the system can also detect if the junction in question is controlled by traffic lights, in which case it suppresses the warning symbols. Both Priority warning and Wrong-way warning operate in conjunction with the optional Navigation

system Professional. The Wrong-way warning detects if the driver is driving the wrong way onto a motorway or onto a roundabout, or is heading the wrong way down a one-way street.

Crossing traffic warning uses radar sensors to check for approaching traffic at junctions with poor or impeded visibility or when backing out of a perpendicular parking space.

# BMW ConnectedDrive and business technologies.

## The intelligent car with total connectivity.



The new BMW 5 Series Sedan sets new standards for connectivity between the driver, vehicle and outside world: to this end, the already extensive portfolio of BMW ConnectedDrive Services has been expanded to include new products that are designed to bring added comfort and time savings for business travellers in particular.

### **Perfect parking: remote controlled or automatic.**

The new BMW 5 Series Sedan boasts an innovative technology first premiered in 2015 in the new BMW 7 Series: Remote Control Parking. This feature enables drivers to use parking spaces that are narrow enough to make getting out of the car very awkward. The parking manoeuvre is controlled using the Display Key. All the driver has to do is position their BMW 5 Series in front of the desired parking space, climb out and then manoeuvre the car into the space using the key. All acceleration and braking actions are monitored and controlled by the Park Distance Control (PDC), the Parking Assistant and the Surround View sensors, while the engine can be started and switched off by remote control.

The optional Parking Assistant, which enables automated parking with the greatest of ease in both parallel parking spaces and perpendicular or angled spaces, also comes with some extra functions. Potential parking spaces now only have to be around 80 centimetres longer than the vehicle itself to be eligible, meaning that the system can manoeuvre the car into even smaller spots than before. The ultrasonic sensors detect suitable parking spaces up to a speed of 35 km/h (22 mph). The system then takes care of the entire parking procedure, including all necessary steering inputs, gear changes, acceleration and braking. For the first time, the Parking Assistant is available for manual models too. In the case of parking spaces that are perpendicular to or at an angle to the road, the system needs only around 40 centimetres of free space to each side of the car to trigger automated parking.

### **Three-dimensional images of the vehicle and its surroundings.**

Surround View and 3D View offer peace of mind to anyone who frequently finds themselves manoeuvring in awkward traffic situations in city centres by allowing them to keep an eye on the area surrounding their BMW 5 Series at all times. The system shows a bird's-eye view of the driver's car as well as a



three-dimensional image of the traffic situation. Any obstacles or other road users that suddenly appear can be spotted even earlier in this way.

With Remote 3D View, these three-dimensional views of the vehicle's surrounding area can also be beamed to the owner's smartphone with the help of BMW Connected. This fusion of driver assistance systems and connectivity services allows owners to quickly check on their parked car no matter how far away it is, as the image data is transmitted over the mobile phone network to their mobile device.

### **Parking with ease: ParkNow and On-Street Parking Information.**

The new BMW 5 Series offers customers an extremely customer-friendly and convenient solution to the problem of parking in city centres. The integration of the ParkNow service into the vehicle means that parking spaces at the roadside and in multi-storey car parks can be easily located, booked and paid for without the need for cash. Bookings can either be made in advance from a PC or smartphone, or en route with the help of the navigation system. Once the selection has been made via the navigation system, the driver is directed straight to the chosen car park and an electronic ticket is generated that grants access to the reserved space. This greatly shortens the time taken to find a free space, something which can otherwise turn into a very tedious task and have an added impact on the environment. In-car integration of ParkNow is initially available in Germany, Austria and the USA and will gradually be extended to other markets.

Another cutting-edge technology also helps to alleviate the problem of vehicles searching for a parking space, which accounts for a large part of traffic congestion in city centres. On-Street Parking Information (OSPI) is receiving its world premiere in the new BMW 5 Series Sedan and will initially be available in selected cities in Germany and the USA. OSPI works in a similar way to the Real Time Traffic Information system, using historical and current data to draw conclusions regarding the availability of parking spaces at the side of the road along specific stretches or in a particular part of town. The system then uses a local prediction model to compute probable parking options and shows them to the driver on the navigation screen.

### **Display Key: door opener and information centre.**

Besides the facility for directing the BMW 5 Series into a parking space by remote control, the optional Display Key offers a host of other functions as well. Remote operation of the auxiliary ventilation and auxiliary heating systems is just one example. The smart key includes a colour display with touch control, which provides information on the most important vehicle parameters. This means drivers can quickly check – even while they're out

and about – whether they closed the windows, sunroof and doors when they parked their car. The car's fuel level and remaining range are also shown on the key, along with any service information. It is charged by means of an inductive charger in the car or from a USB port.

### **Wireless charging, Apple CarPlay and the high-speed hotspot.**

Mobile phones with inductive charging preparation can be supplied with power wirelessly in the BMW 5 Series Sedan. The optional inductive charging tray required for this is located in the centre console in front of the cupholders. The charging tray furthermore establishes a wireless connection to the external aerial, which improves mobile phone reception substantially, particularly in areas with a weak signal. A wireless charging case is available from the Original BMW Accessories range for phones that are not yet compatible with this sophisticated charging technology. The options list also includes a WiFi hotspot offering a high-speed internet connection (LTE) for up to ten mobile devices. Apple CarPlay is available in the BMW 5 Series Sedan too. Integrating the smartphone into the vehicle's system environment allows the phone, together with any apps that are on it, to be operated via the screen in the car by means of the iDrive Controller or touch control. BMW is the first carmaker to integrate Apple CarPlay without any cables at all.

### **The Tyre Service Assistant saves time when changing tyres.**

With the help of the standard-fit tyre pressure indicator, the electronics in the BMW 5 Series Sedan accurately register the tyre sizes fitted, the length of time they have been fitted, seasonal changes and the distances covered. This data can be retrieved in the event of a puncture, for example, so that the service outlet is able to order the right replacement tyres straight away and fit them without delay. The system is also able to reliably forecast when the current set of tyres will reach their wear limit. This is important for safety and also allows fleet operators, in particular, to plan the purchasing of replacements and downtime in the workshop more accurately.

### **The navigation system that keeps learning.**

The latest generation of the Navigation system Professional boasts quicker start-up, even faster route calculation and more realistic 3D graphics in cities. The navigation system is adaptive, too, meaning that if the driver keeps diverting from a suggested route, the system will in future propose the newly learned route as the standard route to the destination in question. Thanks to the automatic map updates, which are free for the first three years, and the ConnectedDrive Services, the navigation maps are updated over the air, i.e. in the background over the mobile phone network using the vehicle's built-in SIM card.

### **BMW Connected: additional functions for the new 5 Series Sedan.**

With the launch of BMW Connected in the USA and Europe in 2016, BMW has introduced an all-encompassing digital concept designed to aid personal mobility. Using a flexible platform called the Open Mobility Cloud as a basis, BMW Connected seamlessly integrates the vehicle into the user's digital life via multiple touchpoints, such as an iPhone, Apple Watch, Android smartphone or smartwatch. BMW Connected focuses first and foremost on the digital products and services which simplify the day-to-day planning of driving routes and appointments. The new 5 Series Sedan includes various new functions such as BMW Connected Onboard – a personalised start screen for every driver – and Remote 3D View, which lets users keep an eye on their 5 Series Sedan's immediate vicinity at all times with a quick glance at their smartphone.

With BMW Connected, mobility extends beyond the vehicle.

BMW Connected is a digital assistant that combines the various functions that assist with everyday mobility requirements. It detects mobility-related information, such as the addresses contained in calendar entries, and transmits this automatically to the vehicle. The user then receives a message on their smartphone notifying them in advance of the ideal departure time on the basis of the latest traffic information. In addition, places the user drives to regularly and personal mobility patterns are also stored automatically. This means that manually entering destination addresses in the navigation system is set to become a thing of the past. Assuming that the destination address and desired arrival time have been set outside the vehicle using BMW Connected, the link between iPhone and car means this data is imported seamlessly when the user gets in and is transferred to the BMW navigation system, allowing route guidance to be started directly. The familiar BMW Remote Services have likewise been incorporated into BMW Connected.

At the root of the BMW Connected concept is a flexible service architecture – the Open Mobility Cloud. This platform builds on Microsoft Azure and processes data and information from all sorts of different sources. With machine learning and data analytics capabilities to boot, it provides the basis for the personalisation and context orientation of BMW Connected services.

### **Email access with Microsoft Exchange.**

BMW is now the first carmaker to offer Microsoft Office 365 users a secure server connection for exchanging and editing emails, calendar entries and contact details thanks to the car's built-in Microsoft Exchange function. This seamless integration makes it possible to be productive while on the move. Addresses from appointments can be imported straight into the navigation

system and telephone numbers can be dialled directly from a linked phone. The configurable ConnectedDrive live pad enables fast, easy access to any new incoming emails or the user's next appointment.

### **ConnectedDrive Services – perfect connectivity from the word go.**

Thanks to the SIM card built in to the vehicle as standard, the ConnectedDrive Services offer optimum connectivity and access to the unrivalled portfolio of BMW services without being dependent on the customer's smartphone. Take the Concierge Service, for example. It allows customers to contact the Call Centre while driving, instruct the agent to search for points of interest, such as pharmacies, restaurants or hotels, and make reservations if required. And they can then have the destination sent directly to the vehicle's navigation system for route guidance, together with all the relevant contact details. Online Entertainment offers drivers direct access to millions of music tracks and audio books from Napster or Deezer. In addition to this, any smartphone apps that have been optimised for BMW can be used easily via the vehicle's display and control system.

RTTI (Real Time Traffic Information) allows BMW 5 Series drivers to avoid traffic jams the smart way. RTTI provides traffic information virtually in real time by analysing anonymised data from the mobile phone SIM cards of other road users, GPS data from vehicle fleets or taxis, smartphone apps, police bulletins and stationary sensors. RTTI thereby receives early notification of any changes in the traffic situation, and an alternative route can be calculated if desired.

Intelligent Emergency Call, which continues to offer an unrivalled level of service, ensures maximum safety out on the road. If the car's airbags are triggered in an accident, this system uses the built-in SIM card to automatically transmit the severity of the accident to the BMW Call Centre, as well as the potential risk of injury to the occupants and the vehicle's location. This information is then used to arrange the best possible emergency response, while the Call Centre stays in contact with the occupants if desired. The Intelligent Emergency Call can also be triggered manually to summon help swiftly for other road users in emergency situations.

### **BMW ConnectedDrive Store.**

This extensive range of products from BMW ConnectedDrive can be purchased in the BMW ConnectedDrive Store, even while driving. For example, drivers can download the RTTI service when they are stuck in traffic and frustrated with inaccurate or incorrect traffic reports broadcast on the radio. The Store is just as easy to use as a smartphone app store. All available and downloaded services are clearly displayed; the services can be selected

with a flexible choice of durations, and once purchased they become available to use in the vehicle just a short time later. After-sales products such as service agreements can now also be purchased from the ConnectedDrive Store in selected countries.

# Lightweight engineering and safety. Lower weight, better protection.



The BMW EfficientLightweight concept has been rigorously applied throughout the new BMW 5 Series Sedan. Using an intelligent multi-material mix consisting of aluminium, high-tensile steels and magnesium, up to 100 kilograms has been shaved off the weight of the previous model, while body strength and torsional stiffness have been increased. A low centre of gravity, a perfectly balanced axle load ratio and a further reduction in unsprung masses have benefits for both dynamics and comfort. The acoustics package too, with engine encapsulation and the use of superabsorbers, has been designed for reduced weight, while also setting new standards in interior noise reduction.

## **Intelligent multi-material mix reduces weight and increases strength.**

Large load-bearing members in the new BMW 5 Series Sedan, and strategic use of high- and ultra-high-strength steels in the roof, side members and rear, give the body high structural strength. The bonnet, boot lid, engine cross-member, rear side-members, roof and doors are constructed from aluminium. The doors, with laser-cut outer panelling, have an aluminium shell construction, which maximises the weight-reducing benefits of this material when used in combination with state-of-the-art production technologies. At only around six kilograms (including the hinges and door brake), these doors are currently the lightest in this segment.

The use of hot-stamped steels, aluminium alloys and multi-phase steels in the safety passenger cell provides high rigidity, for the best possible passive safety and low weight. The cast magnesium instrument panel support is up to two kilograms lighter than the steel version used on the previous model.

Big weight savings have also been achieved for the chassis components. To take just one of many examples, the integration of the electric parking brake into the rear brake callipers brings weight savings of approximately three kilograms. Altogether, the weight savings on the brakes, wheels and tyres add up to a reduction of more than nine kilograms in unsprung mass, with noticeable benefits for dynamics and ride comfort.

For the first time, the boot lid of the BMW 5 Series Sedan is made entirely of aluminium, bringing a weight saving of 4.2 kilograms. And a further half

kilogram has been shed thanks to use of the natural fibre kenaf in the inner lining of the boot lid. Kenaf's high recyclability means it also has a high sustainability factor and is very eco-friendly.

### **Unique body structure provides unbeatable occupant protection.**

The concept underpinning the body of the new BMW 5 Series Sedan is unique in its class as far as technology, structure and materials are concerned. The body structure offers optimised safety both for the vehicle's own occupants and occupants of other vehicles. It is also very light and was designed using state-of-the-art simulation techniques. Deformation spaces are optimally designed and utilised, courtesy of the latest technologies in body design. The aim was to split up the main load paths so that the impact forces are dispersed over as wide an area as possible by the time they reach the extremely rigid passenger cell. This ensures optimal deceleration of the passenger cell in an accident, allowing the front, rear and side impact restraint systems to provide the most effective protection possible.

The airbags' integrated safety electronics ensure that they deploy in the right sequence and provide the right level of restraint at exactly the right time. Taking into account the number of passengers and the severity and nature of the accident, the intelligent control system prevents airbags from being triggered whenever they are not actually required. This way these airbags are still available for deployment in the event of secondary collisions.

### **Detecting accidents before they happen.**

The pre-crash accident detection system Active Protection further enhances passive safety in the new BMW 5 Series by detecting potential accident situations as they arise. If a collision risk is detected, the system automatically triggers a variety of occupant protection measures. The driver's and front passenger's belt tensioners are activated, and the windows and sunroof (if fitted) are closed. Following a collision, Active Protection automatically brakes the vehicle to a standstill. The Collision Warning function detects an imminent risk of collision with preceding vehicles or stationary objects, and prepares the vehicle systems for a possible impact from vehicles behind.

### **Optimised pedestrian protection with the active bonnet system.**

The critical impact area at the front of the vehicle must offer sufficient deformation space to provide optimised pedestrian protection in a collision. Impact absorbers and deformable components allow impact energy to be absorbed according to a predefined pattern. The new BMW 5 Series is also equipped as standard with an active bonnet system. Pyrotechnic actuators in the bonnet hinges and locks raise the bonnet if the vehicle collides with a

pedestrian, creating more deformation space between the bonnet and the hard underlying structures.



## **BMW Individual.** **Greater choice of paint finishes, leather,** **wood, and light-alloy wheels.**



An extensive range of optional equipment available from the market launch of the new BMW 5 Series Sedan will allow customers to mould their car to their own personal taste. In the course of 2017, the BMW Individual program will then take the customisation process a stage further with an additional selection of exterior paint finishes, leather upholstery and other features.

For the exterior, BMW Individual will offer six additional metallic choices, along with four matt “Frozen” finishes. The BMW 5 Series can also be offered in a Special Request paint finish in any colour the customer chooses, whether non-metallic, metallic, pearl-effect or Frozen. A further personal touch can be added in the form of the BMW Individual 20-inch V-spoke light-alloy wheels.

Inside the car, the BMW Individual Anthracite headliner is available in cloth or Alcantara. Leather trim in the selected upholstery shade is available for the instrument panel. This feature is also included in the BMW Individual full-leather upholstery package. Featuring BMW Individual fine-grain Merino leather, this package is offered in a choice of three colours: Tartufo, Smoke White and Caramel. The seams and piping vary depending on the seat version selected (standard or comfort). In addition to the seats and instrument panel, BMW Individual full-leather upholstery also includes fine-grain Merino leather for the front and rear door panel trim and the centre console.

BMW Individual also offers a choice of three exclusive trim strip variants – Piano Finish Black, Plum Brown and Light Ash. In each case, these are perfectly coordinated with the selected leather shade. A BMW Individual leather steering wheel with fine wood inlay matching the selected trim strips is also available, to add the finishing touch to a very personal interior design.

# The model and the market. The seventh generation of a highly successful family.



“In the eyes of our customers, the BMW 5 Series embodies the BMW brand like no other model. They appreciate that it encapsulates the best things about the brand and makes no compromises. That’s why it has been the highest-selling car in its segment year after year and that’s why more than 7.6 million customers and counting have placed their trust in a BMW 5 Series. The new car continues the family tradition of covering every base in terms of driving dynamics, comfort and functionality,” says Dr Ian Robertson, Member of the Board of Management at BMW AG, Sales and Marketing. The new BMW 5 Series turns the page on chapter seven in an enthralling story of success.

An overview of the six generations so far:

## **2010: The most successful business sedan (F10/F11/F18/F07).**

The sixth generation of the BMW 5 Series wasted no time in becoming market leader in its class after it was launched in January 2010. It featured an even more rigid body than its predecessor and was fitted with more safety and driver assistance systems. The BMW 5 Series Gran Turismo added a third body variant with a large tailgate to the line-up. And there was a broader spread of engine outputs than ever before, ranging from 105 kW/143 hp in the BMW 518d to 423 kW/575 hp for the BMW M5. In November 2011 the first BMW 5 Series with hybrid technology came onto the market in the shape of the BMW Active Hybrid 5 (system output: 250 kW/340 hp). With sales of over two million units, the sixth generation of the BMW 5 Series has outstripped its predecessor by 42 per cent and is the most successful premium business model worldwide. The wealth of honours and awards it has garnered over the last six years is further evidence of the high regard in which it is held.

## **2003: Entering a new age (E60/E61).**

The fifth generation of the BMW 5 Series impressed from day one with its progressive design and innovative technology. Available initially as a sedan and from 2004 also in Touring guise, it set new standards in the areas of active safety, driver assistance systems and efficiency, in particular. The engine line-up for this generation of the BMW 5 Series comprised six petrol units and four diesels, producing between 120 kW/163 hp (BMW 520d) and 373 kW/507 hp (BMW M5). From 2007 the BMW EfficientDynamics

technology package was a standard feature. The BMW 5 Series was the highest-selling car in its segment for four years running (2005 – 2008), with a total of more than 1.4 million units handed over to their owners.

### **1995: Alloy chassis makes its 5 Series debut (E39).**

The fourth generation of the BMW 5 Series celebrated its premiere at the International Motor Show (IAA) in Frankfurt in 1995. The BMW 5 Series was the world's first volume-produced car to feature a chassis made almost entirely from light metal. The newly developed all-aluminium engines added further to the weight savings. The output spectrum of the four diesel and six petrol engines ranged from the 100 kW/136 hp of the BMW 520d to 294 kW/400 hp in the BMW M5. The fourth generation of the BMW 5 Series also posted a new sales record; by the time production came to an end at the start of 2004 more than 1.47 million units had been sold.

### **1987: Premiere of the E34, BMW 5 Series Touring launched in 1991.**

The BMW design team led by Claus Luthe clearly took their cues for the styling of the third-generation BMW 5 Series from the appearance of the new BMW 7 Series launched shortly before it. The output of the 11 engines in the line-up – which included three diesels – stretched from 83 kW/113 hp in the BMW 518i to 250 kW/340 hp in the case of the BMW M5. All of the petrol engines were equipped as standard with a closed-loop catalytic converter and designed to run on standard unleaded petrol. And an all-wheel-drive variant was made available for the first time in the form of the BMW 525iX. The BMW 5 Series Touring celebrated its premiere in 1991. It came with a tailgate with a separately-opening rear window, which remains a distinctive feature of the car today. Production of the BMW 5 Series Sedan ended in September 1995, although the BMW 5 Series Touring continued to roll off the assembly line until June 1996. With total sales topping 1.3 million units, the third-generation model had elevated the success of the 5 Series into a new dimension.

### **1981: A modern update of a proven concept (E28).**

The second generation of the BMW 5 Series sported a two-section split kidney grille element and circular headlights with different diameters for main and dipped beam. The engine portfolio largely reflected that of its predecessor, which at launch meant petrol variants with 66 kW/90 hp (BMW 518) to 135 kW/184 hp (BMW 528i). A diesel variant was added to the line-up for the first time in 1983, in the form of the BMW 524td. In 1985 BMW Motorsport GmbH – the forerunner to today's BMW M GmbH – presented the quintessential large sports sedan: the BMW M5. Its six-cylinder in-line engine, derived from the unit powering the legendary BMW M1, developed 210 kW/286 hp. The second generation of the BMW 5 Series

ended production in June 1988 having set a new sales landmark of more than 722,000 units over its eight-year lifespan.

**1972: the first ever BMW 5 Series (E12).**

The successful history of the BMW 5 Series began more than 40 years ago with the first-generation sedan. It also heralded the introduction of a naming system for BMW model designations that is still in use today. The BMW 520 was the successor to the BMW 2000 “Neue Klasse” model and offered customers noticeably more space and comfort. The petrol engines developed from 66 kW/90 hp in the BMW 518 to 160 kW/218 hp in the BMW M535i. Production of the first BMW 5 Series came to an end in July 1981 with getting on for 700,000 sedans sold.

## **Production and sustainability.** **Higher recyclability,** **reduced carbon footprint.**



Like all previous generations of this model since 1973, the new BMW 5 Series will be built at BMW's Dingolfing plant in Bavaria, which serves as the centre of competence for all the larger BMW model series. The new BMW 5 Series is built using a very flexible production system in two assembly halls. On the one line it is built alongside the BMW 3 Series Gran Turismo and the 4 Series and on the other alongside the BMW 6 and 7 Series. In preparation for the seventh generation of the BMW 5 Series, BMW's internal production and processes in the supply chain were specially reorganised and further improved. On the western side of the plant, a new body shop was built. This facility offers innovative joining and bonding techniques specially adapted to the lightweight construction concept of the new BMW 5 Series. In preparation for the launch of the new model series, changes have also been made on the assembly side. Most prominently, major component pre-assembly operations have been restructured to enable the integration of the plug-in hybrid version.

In addition to production at the Dingolfing plant, a longer version of the new BMW 5 Series Sedan will once again be built at the Shenyang plant in China. And in a new development, the standard-wheelbase car will also roll off the assembly line at MSF in Graz from spring 2017. Dingolfing will act as the lead plant for all BMW 5 Series production.

As early as the development process, great importance was attached to the recyclability and pollutant-free nature of all materials used. That's why an increased percentage of secondary (i.e. recycled) materials is now used in production of the new BMW 5 Series Sedan. For example, the high-strength aluminium castings consist of 50 per cent secondary aluminium. These measures, in conjunction with the use of renewable energies, have offset the environmental impact of the significant increase in the use of lightweight materials for the new BMW 5 Series Sedan.

The new BMW 5 Series is 95 per cent recyclable. End-of-life recycling is free of charge in all EU countries.

### **Carbon footprint of the BMW 5 Series reduced by 15 per cent.**

The sum total of these measures has not only reduced CO<sub>2</sub> emissions during the vehicle's useful life but has also reduced the carbon footprint of the new BMW 5 Series across the entire product lifecycle. The Life Cycle Assessment

for the new BMW 5 Series, which was independently verified and certified pursuant to ISO 14040/44 by the TÜV Süd technical inspection agency and the Technical University of Berlin, confirms that the carbon footprint of the new BMW 5 Series has been reduced by 15 per cent compared with its predecessor. This commitment likewise underlines BMW's understanding of what makes a premium car.