

BMW at the 83rd Geneva International Motor Show 2013. Contents.



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1. BMW at the 83rd Geneva International Motor Show 2013. (Highlights)

This year's Geneva International Motor Show sees BMW showcasing a compelling line-up of new production models while also turning the spotlight on some groundbreaking premium compact concepts featuring forward-looking design as well as boasting outstanding sustainability credentials. Lending added highlights to the show stand are a range of innovative driver assistance systems from BMW ConnectedDrive.

BMW 3 Series Gran Turismo: innovative, emotional, functional.

The new BMW 3 Series Gran Turismo marks its world premiere in Geneva, augmenting the mid-range premium segment with a high-end option. An entirely independent concept within the successful BMW 3 Series range, it embodies a unique reinterpretation of the need for space and functionality. This third body variant of the current model family unites the sporty-dynamic genes of the Sedan with the practicality and versatility of the Touring – attributes that are complemented by a palpable boost in space and ride comfort. As such, the new BMW 3 Series Gran Turismo is persuasive both as an elegant executive model and as a dynamic, comfortable mode of travel.

BMW M6 Gran Coupe: unalloyed athleticism and aestheticism.

BMW M unveils a third body variant of its high-performance BMW M6 sports car to the European public for the first time at the 2013 Geneva Motor Show. The new BMW M6 Gran Coupe combines hallmark M performance attributes within an extraordinarily handsome and luxurious design. Thanks to the extra room on board the four-door Coupe, the two rear passengers can relish generous levels of spaciousness.

Working away under the bonnet is a V8 power unit with M TwinPower Turbo technology developing 412 kW/560 hp and peak torque of 680 Newton metres (502 lb-ft). Engine power is channelled to the rear wheels via a seven-speed M Double Clutch Transmission with Drivelogic. Other features include the Active M Differential at the rear axle, an M-specific chassis, variable-ratio hydraulic steering and a high-performance compound braking system.

BMW Z4: Roadster exudes even greater appeal and individuality.

Sporting new exterior features, detailed interior refinements, a new equipment package and a new entry-level engine, the BMW Z4's appearance in Geneva is set to make an even more eye-catching and innovative impression than hitherto. Three new body colours are available with the likewise new Design Pure Traction option. In the interior, black and orange tones make for a particularly stimulating colour contrast.

Further personalisation options come in the shape of new 17-inch and 18-inch light-alloy wheels, as well as the optional M Sport package. Lined up as the future entry-level model is the BMW Z4 sDrive18i, powered by a 2.0-litre engine with BMW TwinPower Turbo technology and 115 kW/156 hp. The new entry-point engine can also be specified with an eight-speed automatic transmission.

BMW Concept Active Tourer: more scope for innovation.

The BMW Concept Active Tourer grants an initial glimpse of further innovations in store for the premium compact segment. With this study BMW showcases a raft of pioneering solutions for the interior as well as in its drive concept. Comfort and functionality are resourcefully combined with dynamics and style, while a plug-in hybrid drive guarantees highest levels of efficiency.

With its exterior length of 4,350 millimetres, athletic proportions and typical BMW lines, this concept car translates BMW's hallmark aesthetics to a further vehicle segment. The interior of the BMW Concept Active Tourer is distinguished by its raised seating position, its generous space for driver and passengers, as well as the flexibly extendable luggage compartment. The dynamic character facets of the study car are down to a specific take on the BMW eDrive concept. The drive system comprises a three-cylinder petrol engine and a synchronous electric motor producing a combined output of 140 kW/190 hp to propel the BMW Concept Active Tourer from standstill to 100 km/h (62 mph) in less than eight seconds. Against this, the car posts average fuel consumption of less than 2.5 litres per 100 kilometres (over 113 mpg imp) and CO₂ emissions below 60 grams per kilometre.

BMW ConnectedDrive: Dynamic Light Spot identifies animals at night.

BMW Night Vision, a driver assistance system from BMW ConnectedDrive, makes a significant contribution to accident avoidance after dark. Thanks to BMW Dynamic Light Spot, moreover, the risk of collisions with pedestrians is reduced even further. From summer 2013, BMW Night Vision will additionally feature a specific animal recognition system that extends beyond the reach of the main-beam headlights. An infrared thermal imaging camera mounted in the BMW kidney grille is able to detect heat-emitting objects from a distance of some 100 metres, while distinguishing between humans and animals by the level of heat. If BMW Night Vision anticipates a potential collision with an animal, the Dynamic Light Spots start to flash at the animal in a targeted manner. The instrument display simultaneously flags up the symbol of a deer. In the event of acute danger, the on-board system additionally emits an acoustic warning.

BMW i3 with intelligent range-extending solutions.

The BMW i3 Concept Coupe marks its European premiere in Geneva, while the BMW i8 Concept Spyder also makes an appearance. Vehicle range and charging infrastructure are a frequent subject of discussion as key factors in electric mobility. With its eDrive powertrain, the BMW i3 is designed to require a battery recharge just once every two to three days in typical commuting use. That equates to a range of between 130 and 160 kilometres (80 to 100 miles). The drive system and all other vehicle functions in the BMW i3 are powered by a specially developed high-voltage lithium-iron battery, a hallmark of which is that its energy output – and thus the vehicle's range – is less vulnerable to temperature fluctuations than is generally the case with such batteries today. Another priority when it came to designing the BMW i3 was to reduce the energy consumption of electrical components in the car, while the use of various driving modes can boost the range by up to 25 per cent. As the BMW i3 is also the world's first fully networked electric vehicle, drivers are repeatedly updated with realistic estimates of the car's range. If desired, they can also ask the system to display charging stations in the vicinity of the destination, with a further press of a button sufficing to reserve a slot. What's more, the system informs the driver how long it will take to charge the vehicle for the return journey or to travel to a further destination. An optional range extender is also available, increasing the driving range to approximately 300 kilometres (186 miles).



2. BMW at the 83rd Geneva International Motor Show 2013. (Long version)

2.1 Spaciousness and practicality in aesthetic form: The new BMW 3 Series Gran Turismo.

The new BMW 3 Series Gran Turismo adds an innovative new concept to the successful BMW 3 Series line-up. The third body variant in the current model family combines the Sedan's dynamic, sporting genes with the practicality and versatility of the Touring, qualities which are backed up by a palpable increase in space and driving comfort. The Gran Turismo exudes aesthetic and emotional appeal, boasts a distinctive presence on the road and offers similarly pronounced driving pleasure. All of which allows the new Gran Turismo to make a compelling case for itself as both an elegant business carriage and a dynamic, comfortable tourer.

Typical BMW proportions, four doors with frameless windows, a coupe-style, gently downward-sloping roofline and a large, automatically opening and closing tailgate define the distinctive exterior character of the BMW 3 Series Gran Turismo. An active rear spoiler – the first of its type on a BMW – provides visual lightness and reduces lift at touring speeds. The new BMW 3 Series Gran Turismo is 200 millimetres longer in total than the BMW 3 Series Touring, comes with a 110-millimetre longer wheelbase and stands 81 millimetres taller. However, the clever use of proportions, surfaces and lines ensures that the BMW 3 Series Gran Turismo is immediately recognisable as a member of the new BMW 3 Series range.

Impressive long-distance comfort in a unique ambience.

Generous interior dimensions allow the passengers in every seat of the BMW 3 Series Gran Turismo to sit back and enjoy an impressive feeling of space and unbeatable freedom of movement. The front and rear passengers all benefit from a seating position raised by 59 millimetres, which provides an outstanding view out and makes entry and exit significantly more comfortable. Plus, the BMW 3 Series Gran Turismo also offers extra headroom. The increase in space will be particularly noticeable in the rear compartment, where a full 70 millimetres of additional legroom over the Sedan and Touring – giving luxury-car levels of spaciousness – is there to be enjoyed. The cocooning nature of the interior, complemented by its design forms,

colour scheme and materials, creates a lounge-style ambience which allows passengers to enjoy short trips and long journeys alike in relaxed comfort.

Intelligent load area management.

The load area also reflects the car's increased dimensions, its 520 litres of boot capacity even outstripping that of the BMW 3 Series Touring by 25 litres. The large load aperture and high-opening tailgate make access easier. Practical standard features – such as the 40:20:40 split/folding rear seat bench with folding head restraints and tilt-adjustable backrests (cargo function), and the two-piece parcel shelf – underscore the impressive functionality of the BMW 3 Series Gran Turismo. The large load area can be utilised in many different ways, allowing intelligent space management. Practical features such as lashing points, multifunction hooks and an underfloor storage compartment make it even more convenient to use, while the LED strips that illuminate the cargo area emphasise the premium quality of the 3 Series Gran Turismo.

Quintessential BMW 3 Series: functional elegance, three equipment lines.

High-end material combinations and fit and finish of the highest quality underline the premium ambience on board the new BMW 3 Series Gran Turismo. The latest addition to the 3 Series family can be ordered in an entry-level version, with the Sport Line, Luxury Line or Modern Line equipment packages, or with the optional M Sport package, which will already be available from July 2013.

Three petrol and two diesel engines power the GT off the start line.

Customers can choose from a selection of five powerful, refined and economical engines – covering an output range from 105 kW/143 hp to 225 kW/306 hp– from the launch of the new BMW 3 Series Gran Turismo. All the powerplants use BMW TwinPower Turbo technology. The range-topping six-cylinder petrol engine under the bonnet of the BMW 335i Gran Turismo is joined by the four-cylinder petrol units in the BMW 328i Gran Turismo and BMW 320i Gran Turismo. The two 2.0-litre diesel engines powering the BMW 320d Gran Turismo and BMW 318d Gran Turismo round off the line-up at launch.

Power is sent to the rear wheels via a six-speed manual gearbox as standard, although BMW also offers an eight-speed automatic as an option for all engine variants. Both gearboxes link up with the fuel-saving Auto Start-Stop function.

Advanced suspension technology, featuring a large number of light-alloy components, the torque steer-free Electric Power Steering, finely-balanced axle load distribution (50:50) and a torsionally stiff lightweight body ensure outstanding handling attributes and a high degree of agility and precision. The longer wheelbase (+ 110 mm), greater wheel diameter and baseline specification of the new BMW 3 Series Gran Turismo – which includes 17-inch wheels – result in a car offering excellent directional stability and long-distance comfort.

BMW EfficientDynamics.

In addition to its enviable practicality and sporting dynamics, the outstanding fuel economy of the new BMW 3 Series Gran Turismo also serves the cause of driving pleasure. The key here is the BMW EfficientDynamics development strategy, whose influence can be seen in virtually every area of the new model. Building on the good work of the ultra-frugal petrol and diesel engines, the intelligent lightweight construction concept of the BMW 3 Series Gran Turismo and its optimised aerodynamics (including Air Curtains, Air Breathers and the active rear spoiler) do their bit to maximise efficiency and dynamics. And other measures, such as the Auto Start-Stop function, Brake Energy Regeneration, Optimum Shift Indicator and on-demand operation of ancillary components join the campaign to ensure the powerful BMW 3 Series Gran Turismo boasts impressively low fuel consumption and emissions. The economy drive doesn't stop there, either; the car still has the potential to cut fuel use by as much as another 20 per cent using ECO PRO mode and the new ECO PRO Route function.

BMW ConnectedDrive.

An extensive selection of driver assistance systems and mobility solutions, offered under the BMW ConnectedDrive programme, allows the new BMW 3 Series Gran Turismo to set the benchmark in its segment in terms of safety, convenience and infotainment. One highlight of the range is the latest-generation full-colour Head-Up Display, which projects key information onto

the windscreen in sharp resolution. Included alongside an array of other convenience and safety-enhancing assistance systems is highly effective interface technology that allows extensive use of external mobile phones and numerous Bluetooth office functions for internet-based services.

The Apps option and free BMW Connected application provide access to services such as social networks, web radio and iPhone calendar functions. Last but not least, information and office services, and travel and leisure planners using the Google Maps and Panoramio services, further increase levels of passenger comfort in the new BMW 3 Series Gran Turismo.

2.2 A supreme combination of high performance and luxury: The BMW M6 Gran Coupe.



A third body variant of the BMW M6 high-performance sports car is set to be presented for the first time as the BMW M6 Gran Coupe joins the existing Coupe and Convertible models in the line-up. The new member of the M6 family brings together customary M performance characteristics with extra helpings of luxury and aesthetic appeal. The high-revving V8 engine with M TwinPower Turbo technology and 412 kW/560 hp propels the BMW M6 Gran Coupe from 0 – 100 km/h (62 mph) in 4.2 seconds. The greater interior space of the BMW M6 Gran Coupe allows two rear passengers to enjoy generous levels of on-board comfort, and there is also a third rear seat for use on shorter journeys.

Design: the beauty of majestic power delivery.

Hallmark M design features open a clear window into the performance capability of the BMW M6 Gran Coupe. The front of the car is dominated by its large air intakes, standard Adaptive LED Headlights and an M kidney grille designed specially for this model. From the side, the first four-door Coupe in the BMW M GmbH ranks is clearly distinguishable from the BMW M6 Coupe thanks to its rear doors and 113-millimetre-longer wheelbase. The low roofline flowing smoothly into the rear, the swage line – which takes in the door openers – and side windows extending well into the C-pillars accentuate the dynamically stretched silhouette.

Prominently flared wheel arches, characteristic M gills, aerodynamically optimised exterior mirrors, the standard BMW Individual High-gloss Shadow Line package and exclusive 20-inch M light-alloy wheels in double-spoke design underline the car's distinctive appearance, as does another M signature – twin exhaust tailpipes positioned on the outer edges of the rear apron. Also integrated into the rear apron, and charged with the task of optimising airflow along the car's underbody, is a diffuser made from CFRP.

This extremely lightweight, impressively strong high-tech material is used in the construction of the roof as well. Here, the visible carbon structure provides an eye-catching feature, as does a dynamic recess in the centre of the roof. This recess is referenced stylistically inside the car, the anthracite-coloured Alcantara roof liner gaining a central section in leather.

Emulating the harmonious blend of athletic prowess and elegance embodied by the exterior design, the distinctively M cockpit fuses sports car style with generous levels of space and a luxurious ambience. The driver and front passenger can look forward to M sports seats with integral belt guides. And the BMW M6 Gran Coupe's standard specification also includes Merino leather upholstery with extended features. The rear compartment offers two or three seats, the backrests of which can split and fold down in a ratio of 40:60 to increase boot capacity from 460 to as much as 1,265 litres.

V8 engine with M TwinPower Turbo technology, seven-speed M Double Clutch Transmission with Drivelogic, Active M Differential.

The powertrain technology under the skin of the BMW M6 Gran Coupe guarantees the performance characteristics for which M Automobiles are renowned. The V8 engine with M TwinPower Turbo technology produces 412 kW/560 hp. Its technical wizardry includes a pair of twin-scroll turbochargers, a cross-bank exhaust manifold, High Precision Direct Petrol Injection, VALVETRONIC variable valve timing and Double-Vanos continuously variable camshaft control. The 4,395 cc unit keeps peak torque of 680 Newton metres (502 lb-ft) on tap between 1,500 and 5,750 rpm, while maximum output is developed between 6,000 and 7,000 rpm. The engine revs to a maximum of 7,200 rpm. The BMW M6 Gran Coupe sprints from 0 to 100 km/h (62 mph) in 4.2 seconds on the way to an electronically governed top speed of 250 km/h / 155 mph (305 km/h / 189 mph if the optional M Driver's Package is specified). Average fuel consumption in the EU test cycle stands at 9.9 litres per 100 kilometres (28.5 mpg imp) and CO₂ emissions are 232 grams per kilometre.

Taking care of power transfer is a seven-speed M Double Clutch Transmission with Drivelogic. The transmission's electronic management system ensures the right gear is selected for optimum traction. It also offers the driver a Launch Control function for maximum acceleration, Low Speed Assistance for extra comfort and the Auto Start-Stop function to enhance efficiency.

Under dynamic acceleration out of corners, as well as in tricky road and weather conditions, the Active M Differential at the rear axle distributes the engine's power between the individual wheels to maximum traction-enhancing effect. Its electronically controlled multi-disc limited-slip differential works hand-in-hand with the DSC (Dynamic Stability Control) system and splits drive between the right and left rear wheels according to the situation at hand.

Chassis technology developed to M specification.

The chassis technology of the BMW M6 Gran Coupe is also geared to harnessing the car's sporting potential in the cause of supreme performance. Like the integral rear axle, the double-wishbone front axle has specific kinematics and components made from forged aluminium. The BMW M6 Gran Coupe comes as standard with an M-specific version of the Dynamic Damper Control system and hydraulic variable-ratio rack-and-pinion steering with the M Servotronic function. As an alternative to the standard high-performance compound braking system, the BMW M6 Gran Coupe can also be ordered with M carbon-ceramic brakes. Made from a new type of carbon-fibre compound ceramic, the discs boast even greater resistance to heat, lower weight and exceptional resistance to wear.

Arranged around the gearshift lever on the centre console of the BMW M6 Gran Coupe are the buttons used to configure all the adjustable powertrain and chassis functions to personal tastes. The DSC mode, engine performance characteristics, Dynamic Damper Control mapping, M Servotronic responses and M DCT Drivelogic shift program can be selected independently of each other. All of which means the driver can put together a detailed set-up and store those settings on one of the two M Drive buttons on the multifunction steering wheel.

Exclusive and individual: high-quality range of equipment.

The standard equipment fitted on the BMW M6 Gran Coupe includes 20-inch M light-alloy wheels, leather trim, heated driver and front passenger seats, automatically dimming rear-view and exterior mirrors, an alarm system and the BMW Professional radio with hi-fi loudspeakers. Available as an alternative to the standard 2-zone automatic climate control is a 4-zone system with a control panel in the rear compartment. Among the other highlights of the options list are M multifunction seats, heated rear seats, Comfort Access, a heated steering wheel, the Soft Close Automatic function for the doors,

electrically operated sun blinds, the new generation of the Professional navigation system and a Bang & Olufsen High End Surround Sound System.

The BMW M6 Gran Coupe also comes with a variety of BMW ConnectedDrive features, such as an M-specific BMW Head-Up Display, Park Distance Control, a rear-view camera, High Beam Assistant, Speed Limit Info, Lane Change Warning, Lane Departure Warning, Surround View and BMW Night Vision with pedestrian recognition. Innovative technologies also allow customers to integrate their Apple iPhone or other smartphones into the car and make use of internet-based services while on board.

All data on the BMW M6 Gran Coupe are provisional.

2.3 A roadster with character and sporting flair: The new BMW Z4.



Boasting new exterior features, new exterior paint shades, detailed interior refinements, a new equipment package and the new entry-level sDrive18i model, the new BMW Z4 is now even more attractive and innovative.

The standard bi-xenon headlights of the new BMW Z4 have an extremely slim design and feature LED light rings which emit daytime driving light in the brand's hallmark style. Added to which, the light sources now have a strikingly three-dimensional design. Cutting across the tops of the headlights are LED accent lights, whose metal insert bears BMW lettering. The integrated turn signal indicators now have chrome-coloured surrounds, while a newly designed, tapered surround for the side indicators adds a dynamic sweep to the gills on the front side sections of the car.

Striking touches: new paint finishes, Design Pure Traction equipment package, additional light-alloy wheels and the M Sport package.

A total of 11 external paint finishes are available for the new BMW Z4, including the new Mineral Grey metallic, Glacier Silver metallic and Valencia Orange metallic, which can only be ordered together with the Design Pure Traction option. As part of this new equipment package, the bespoke Alcantara door panel trim – like the lower section of the instrument panel – comes in orange. The black leather seats feature contrast stitching in orange and an accent stripe running down the central section of the backrests and seat cushions. This stripe is likewise orange and is flanked by two thin white lines. The door panel trim and lower section of the instrument panel can also be specified in black as an option. Another exclusive element of the Design Pure Traction package is the metal weave trim strip, which can be combined with further decorative elements in high-gloss black for the door openers and the gearshift or selector lever. This new equipment package replaces the previously available Design Pure Impulse and is also available in combination with other exterior paint colours as an option.

New interior additions to standard specification include high-gloss black surrounds for the central air vents and the iDrive control system's folding Control Display, which comes as part of the optional Professional navigation system.

New variants have been added to the range of optional light-alloy wheels as well, including newly designed 17-inch and 18-inch wheels in V-spoke design, both of which are combined with mixed tyres. Likewise optional is the M Sport package, which contributes M Sport suspension, 18-inch M light-alloy wheels and an M aerodynamics package with large air intakes in the front wing and a rear bumper inlay painted Anthracite metallic. Bringing an extra dose of sporting flair into the interior, meanwhile, are features such as sports seats, an M leather steering wheel, M driver's footrest, M door sill finishers and an anthracite-coloured roof liner. The new BMW Z4 sDrive35is comes as standard with a model-specific version of the M Sport package.

Engines: BMW TwinPower Turbo technology at five output levels.

The BMW Z4 will be available with a larger, five-strong line-up of petrol engines from launch. The three four-cylinder and two six-cylinder powerplants already meet the stipulations of the EU6 exhaust emissions standard due to come into force in 2014.

The BMW Z4 sDrive18i takes to the stage as the new entry-level model. It is powered by a 2.0-litre engine with BMW TwinPower Turbo technology which develops maximum output of 115 kW/156 hp at 5,000 rpm. The new variant of the four-cylinder unit delivers peak torque of 240 Newton metres (177 lb-ft) between 1,250 and 4,400 rpm. The BMW Z4 sDrive18i is fitted as standard with a six-speed manual gearbox, while an eight-speed sports automatic can be ordered as an option.

The range of driver assistance systems and mobility services from BMW ConnectedDrive has also expanded once again. The new BMW Z4 can be equipped with features such as a rain sensor, Adaptive Headlights and High Beam Assistant. Cruise control with braking function and Park Distance Control with sensors at the front and rear of the car are also available. If the Professional navigation system – complete with high-resolution map graphics and 3D view – is specified, the ConnectedDrive Services option allows the use of internet-based information and entertainment services inside the car. The navigation data for the system is stored on an in-car hard disk, which also provides 12 GB of capacity for personal music collections.

2.4 Combining comfort and functionality with dynamism and style: The BMW Concept Active Tourer.



The new BMW Concept Active Tourer provides an insight into how comfort and functionality of space could in future be melded with dynamism and style in the premium compact segment. Designed as a plug-in hybrid, the BMW Concept Active Tourer furthermore offers a glimpse of the shape of things to come for drive systems in the compact class. It marks the debut of the BMW eDrive concept – familiar from the BMW i8 – in a model from the BMW parent brand. Encompassing all electric drive components, the in-house developed electric motor, the lithium-ion battery and the intelligent motor management system, the eDrive badge will be used for all electric and plug-in hybrid drive systems in future.

Ideal combination of sporty appeal and comfort.

The harmoniously proportioned BMW Concept Active Tourer exudes an air of sporty elegance when viewed from any angle, and it retains the highly expressive BMW front end that is a hallmark of the brand. When seen in profile, the elongated silhouette with a suggestion of a wedge shape lends the BMW Concept Active Tourer a dynamic air that is unprecedented in this class, even at standstill. Measuring 4,350 millimetres in length, 1,833 millimetres wide and 1,576 millimetres in height, the BMW Concept Active Tourer succeeds in uniting compact dimensions and attractive, sporty design with BMW's trademark brand of aesthetic appeal. A raised seating position and ample spaciousness are the standout features of the BMW Concept Active Tourer's interior. What's more, the batteries for the hybrid drive have been fitted entirely under the load floor, allowing full use to be made of the roomy luggage compartment.

The interior: elegant with an airy, spacious feel.

The spaciouly designed interior has such a transparent and refreshingly new feel to it that the BMW Concept Active Tourer radiates a whole new sense of space. The centre console appears to be hovering between the front seats and flows seamlessly into the dashboard, an arrangement that maximises legroom for the driver and front passenger. The raised "semi-command" position of the seats furthermore grants an excellent all-round view, adding the finishing touch to the car's peerless standards of comfort and ease of use.

As an option a full-colour Head-Up Display can be specified, which appears on a special extending glass surface between the steering wheel and windscreen – a first in the compact segment. An innovative panoramic sunroof creates a unique ambience, extending across the entire roof surface of the BMW Concept Active Tourer. To achieve the desired brightness or temperature effect in the passenger compartment, the laminated glass panel can be controlled electrically at the press of a button to make it as dark as heavily tinted sunglasses or crystal-clear transparent. The passengers in the rear of the BMW Concept Active Tourer also travel in great comfort, with ample legroom arising from the long wheelbase and the slightly raised roof allowing them plenty of freedom of movement. Not only does the rear backrest feature a 40:20:40 split-fold design for flexible extension of the luggage compartment, the BMW Concept Active Tourer offers rear-seat occupants some further ingenious touches with the Travel & Comfort System. A vertical metal rail is integrated into the centre of both front seat backs to which a tablet computer or storage cases can be secured.

The drive system of the BMW Concept Active Tourer: the future is here.

The BMW Concept Active Tourer is designed as a plug-in hybrid, combining the benefits of an electric drive system with the strengths of a conventional combustion engine to optimum effect. The plug-in hybrid vehicle (PHEV) is set to play an important role in future as such vehicles normally have a range of well over 30 kilometres (19 miles) in all-electric mode, allowing them to operate just as efficiently on both short and long journeys as well as in hybrid mode. The BMW Concept Active Tourer is driven by a highly sophisticated 1.5-litre BMW TwinPower Turbo petrol unit from the new BMW Group Efficient Dynamics engine family working in perfect tandem with a synchronous electric motor.

PHEV: the best of both worlds for remarkable performance.

The BMW Concept Active Tourer showcases a new drive concept for the BMW brand. Instead of driving the rear wheels – as has been the case to date – the 1.5-litre petrol engine's power is directed to the front. The electric motor in the BMW Concept Active Tourer is designed as a fully independent power unit that acts on the rear axle, propelling the car by itself if necessary. With a total system output of over 140 kW/190 hp, the combustion engine and electric motor combine to give the BMW Concept Active Tourer sporty

performance credentials, while keeping fuel consumption and emissions figures extremely low. As a result, the plug-in hybrid darts to 100 km/h (62 mph) from stationary in under eight seconds, going on to a top speed of around 200 km/h (125 mph). Despite these impressive performance figures, it returns average fuel consumption figures of less than 2.5 litres per 100 kilometres (113 mpg imp), with CO₂ emissions remaining under 60 g/km. The brand-new, cutting-edge 1.5-litre three-cylinder petrol unit is the first member of this new generation of engines. It produces an exemplary blend of dynamic performance and efficient operation and is compelling for its spontaneous responsiveness, uniform torque delivery throughout the rev band, and highly impressive noise and vibration comfort.

Synchronous electric motor: extra power with zero emissions.

The synchronous electric motor fitted in the BMW Concept Active Tourer was likewise developed in-house by the BMW Group. With a fully charged battery, the BMW Concept Active Tourer can drive for a maximum distance of over 30 kilometres (19 miles) purely on electric power. The car's lithium-ion battery can be recharged from a standard 220V domestic socket. Energy can be recovered at both axles of the BMW Concept Active Tourer and fed back into the lithium-ion battery to further enhance the plug-in hybrid drive's efficiency.

Wide array of additional BMW EfficientDynamics measures.

Needless to say, the BMW Concept Active Tourer comes equipped with a host of further features from the all-encompassing BMW EfficientDynamics strategy. A key aim is to maximise the vehicle's range in all-electric mode, something that is achieved by optimising the energy consumption of the ancillary units. ECO PRO mode therefore reduces the power of the interior air conditioning and other electrically operated comfort functions as and when appropriate, as well as adapting the operation of all drive components to the current driving situation in order to maximise efficiency. ECO PRO mode can also provide the driver with valuable driving tips, if desired. It is linked into the navigation system for this purpose: taking the calculated route data and the individual driving style as a basis, ECO PRO mode indicates, for example, how the destination can be reached while consuming as little fuel as possible.



2.5 BMW ConnectedDrive: BMW Night Vision with early detection of animals using Dynamic Light Spot.

BMW Night Vision, a driver assistance system from BMW ConnectedDrive, plays a major role in preventing accidents during nighttime driving. Continuously improved since its introduction in 2005, the system is now in its third generation complete with early pedestrian recognition capability, and provides a tremendous boost to safety when driving in the dark. With the assistance of BMW Dynamic Light Spot, the BMW Night Vision system can further reduce the risk of colliding with pedestrians. A marker light detects any vulnerable pedestrians in the vicinity of the carriageway at an early stage, and draws the driver's attention to them by illuminating them with a precisely directed light spot.

From summer 2013, BMW Night Vision will additionally include a special function for detecting animals outside the headlights' beams. This has meant making the Night Vision system's key component – an infrared thermal imaging camera integrated into the BMW kidney grille – even more powerful. Based on the heat given off, it is already able to determine from a distance of around 100 metres whether an object ahead is a person or an animal. As with the pedestrian recognition function, if the BMW Night Vision control unit's analysis of the situation indicates a collision risk when an animal is detected, a real-time video image appears in the Control Display as a warning. Even if the image does not appear, a symbol showing a deer leaping to the left or right, depending on the situation, is flashed up in the instrument cluster and in the high-resolution Head-Up Display. The Dynamic Light Spots also start to pinpoint the animal by flashing. The initial high flash frequency is designed to direct the driver's attention straight to the source of danger. Animals (e.g. game, cattle or horses) are flashed until they are within range of the normal low-beam headlights. If the driver fails to adapt his driving to the critical situation and there are pedestrians in acute danger, the in-car system will emit an acoustic warning. At the same time the braking system is primed by lowering the Brake Assist system's activation threshold in order to shorten the stopping distance in the event of emergency braking.

The new high-performance LED headlights are fitted on the outsides of the front apron in place of the foglamps and can swivel, allowing them to be computer-controlled to illuminate the target object precisely.

The High Beam Assistant also intervenes if necessary to prevent the Dynamic Light Spots from dazzling other traffic. When they are not activated, the Dynamic Light Spots are dimmed to work together with the high beam or low beam.

2.6 BMW i3 Concept Coupe: European premiere plus intelligent range-enhancing solutions.



The BMW i3 Concept Coupe celebrates its European premiere in Geneva, while the BMW i8 Concept Spyder also makes an appearance. These two concept models reflect the current status of the ongoing development process and illustrate the potential breadth of an extended BMW i portfolio. At the same time they show how high-performance, zero-emission mobility is also able to deliver when it comes to emotional excitement and sheer appeal. Both models are built around BMW eDrive technology, which will provide a unique driving experience in all future BMW electric and plug-in hybrid models. These BMW eDrive powertrains, comprising the electric motor, lithium-ion battery and intelligent powertrain management, form the core of all BMW i models.

The BMW Group will start supplying customers with driver-friendly, premium-quality electric mobility later this year with the BMW i3, whose technology is a response to the social, ecological and economic challenges of our times.

Two principal challenges still faced by electric mobility are what are considered to be the short driving range of electric vehicles and an inadequate charging infrastructure. With the world's biggest electric mobility field trial, the BMW Group has therefore been exploring these issues in depth since 2008. In the meantime more than 20 million kilometres (12.5 million miles) of testing by well over 1,000 pilot customers in ten countries has been conducted and scientifically evaluated. These trials, which took place with BMW ActiveE and MINI E vehicles in Asia, Europe and the USA, produced three main findings:

- The distances covered by the electric vehicles showed very little difference from the distances covered by conventional cars, at somewhat over 40 kilometres (25 miles) a day on average.
- On average, the pilot customers charged their vehicle two to three times a week, for the most part at home or at their workplace.
- At the start of testing, more than 70 per cent of users said that access to public charging stations was very important to them. In actual practice, however, public infrastructure was used for less than 10 per cent of all charging.

Based on the field trial results, BMW i set out to design a BMW eDrive powertrain for the BMW i3 which in typical commuting use between home and workplace would only require the battery to be recharged once every two to three days. The BMW i3 goes well beyond this target, with a range of between 130 and 160 kilometres (80 to 100 miles) in day-to-day operation. This also allows it to cope comfortably with out-of-town journeys.

The drive system and all other vehicle functions in the BMW i3 are powered by a specially developed high-voltage lithium-ion battery. One of the hallmarks of this battery is that its energy output, and thus the range of the vehicle, is less affected by fluctuations in temperature than is typical of such batteries today. The technology behind this is an intelligent heating/cooling system which always keeps the battery at an optimal operating temperature. This improves the everyday practicality, stable performance and life expectancy of the battery.

A further priority in designing the BMW i3 was to reduce the energy consumption of electrical components. The cabin heating operates on the heat pump principle, which results in 30 per cent energy savings in city driving compared with a conventional electrical heating system, while the internal and external lighting uses energy-saving LEDs. Together, these two measures make a significant contribution to “range security” in the BMW i3.

Battery and consumer size and management are not the only measures BMW i is adopting to address range issues. The BMW i3 will also be the world’s first electric vehicle to feature full connectivity and will consequently be equipped with innovative BMW i ConnectedDrive services catering specifically to the needs of electric mobility.

These functions, which are specially adapted to BMW eDrive technology, provide drivers with a realistic range estimate for their journey before they even set out. The internet-enabled navigation system is based on a dynamic range display which takes into account all the relevant parameters for the planned route and is therefore able to provide precise, reliable range predictions. In addition to the battery charge level, driving style, use of electric convenience systems and choice of drive mode, the calculations also take into account route topography and the current traffic situation. The system can identify energy-intensive uphill gradients on the route ahead and reduces the

range computation accordingly. The same goes for energy-depleting stop-go conditions or traffic jams, since detailed real-time traffic data is also taken into account.

The dynamic range display appears in the central information display, inside the navigation map. Based on the vehicle's current location, all destinations reachable on the battery's current charge level are shown in the form of a spidergram. Since the vehicle's energy consumption, and therefore also its range, can be actively altered by the driver by changing to a different drive mode, the system always computes two different versions of the range graph. The range displayed depends on whether the driver has selected COMFORT, ECO PRO or ECO PRO+ mode. Depending on the destination, the Range Assistant if necessary recommends that the driver switch to ECO PRO or ECO PRO+ mode in order to increase the driving range. In the standard sporty but comfortable COMFORT mode, the BMW i3 already offers a range of 160 kilometres (100 miles). ECO PRO mode, on the other hand, selects a different accelerator pedal mapping, which uses less power and increases the driving range by around 10 per cent. In ECO PRO+ mode, all settings are geared to achieving the maximum possible range. In this mode the maximum speed of the BMW i3 is limited to 90 km/h (56 mph) and electrical consumers such as the heating and air conditioning are switched to energy-saving mode. As a result, the driving range is increased by approximately 25 per cent compared with COMFORT mode.

The driver can also ask the display to show charging stations within easy reach of his or her destination, and can reserve a slot at one of these locations at a further press of a button. The system also informs the driver how long it will take to charge the vehicle for the return journey, or to travel to a further destination. As a rough guide, in the time it takes to stop for a cup of coffee enough charge can be stored – using “fast charging” mode – to give an additional 120 kilometres (75 miles) of range.

The BMW i3 can also be supplied with an optional range extender, which increases the driving range to approximately 300 kilometres (186 miles).

If it is likely that, even using all the measures listed above, it will not be possible to reach an intended destination in the BMW i3, BMW i also offers additional mobility modules which allow even longer distances to be covered –

for example a conventional BMW vehicle can be provided on a given number of days per year.