

# BMW at Auto Shanghai 2013. Contents.



<b>1. BMW at Auto Shanghai 2013.</b> (Highlights) .....	2
<b>2. BMW at Auto Shanghai 2013.</b> (Long version)	
2.1 The BMW Concept X4. The next chapter in the Sports Activity Coupe story. ....	5
2.2 Spaciousness and practicality in an aesthetic form: The BMW 3 Series Gran Turismo. ....	9
2.3 Pairing comfort and functionality with dynamism and style: The BMW Concept Active Tourer. ....	12
2.4 A supreme combination of high performance and luxury: The BMW M6 Gran Coupe. ....	16
2.5 Intelligent range-enhancing solutions: BMW i3 Concept and BMW i8 Concept. ....	20
2.6 Three BMW Group innovation centres in China: a DesignworksUSA Studio, a ConnectedDrive Lab and a Technology Office, all in Shanghai. ....	24

Note: Unless otherwise stated, the vehicles described in this press kit reflect engine and equipment specifications for the Chinese market. Specifications in other markets may vary.

# 1. BMW at Auto Shanghai 2013. (Highlights)



With its latest models and groundbreaking concept studies on show at Auto Shanghai 2013, BMW is offering a clear pointer to its continuing model push.

The Shanghai show is the stage for the world premiere of the BMW Concept X4, which carries the attributes of a Sports Activity Coupe into a further vehicle segment. The study reveals at first sight how smoothly the qualities of a BMW X model meld with the genes of a BMW Coupe.

Auto Shanghai 2013 also sees the Asian premiere of a further BMW concept: the BMW Concept Active Tourer affords a preview of how comfort and functionality of space can be combined with dynamics and style in the premium compact segment.

Just around the corner, meanwhile, is the market launch of the new BMW 3 Series Gran Turismo and BMW M6 Gran Coupe models, which are also making their debut on the Asian continent. BMW i presents its two studies, the BMW i3 Concept and BMW i8 Concept, at Auto Shanghai 2013. The brand's first series-produced model, the BMW i3, is set to be launched this year, starting in Europe and then rolled out into other regions of the world.

These new models will help to position the BMW brand in China's dynamically expanding car market. In 2012, the BMW Group managed to boost car sales in mainland China by 40.4 per cent to a total of 326,444 units. Moreover, China has taken on an increasingly significant role as a local production location. BMW 3 Series and BMW 5 Series models have been built at the Shenyang plant since 2003, and the Tiexi factory that opened in 2012 will now also be producing the BMW X1 for the Chinese market.

The BMW Group is similarly expanding its local R&D capacities, and its creative network in China now includes a DesignworksUSA Studio, a ConnectedDrive Lab and a Technology Office. All three innovation centres are based in the metropolis of Shanghai.

- **World premiere: the BMW Concept X4.**

BMW is once again breaking new ground with the creation of an all-new vehicle segment. The BMW Concept X4 opens a window into the future expansion of the BMW X family. Scheduled for its debut appearance at Auto Shanghai 2013, the concept car combines the rugged looks of a BMW X model with the emotional and sporting aura of one of the brand's Coupes – and, in so doing, brings the Sports Activity Coupe concept so successfully coined by the BMW X6 to another new class.

The BMW Concept X4 takes to the stage sporting a product character all its own. As such it follows in the tyre tracks of the BMW X5, BMW X3, BMW X1 and BMW X6, which likewise adopted the role of trailblazer in their respective segments and continue to set their class standard today.

- **Asian premiere: the BMW 3 Series Gran Turismo.**

The BMW 3 Series, the world's most successful premium car, is entering new territory with the introduction of a new body variant.

The BMW 3 Series Gran Turismo blends the sporting elegance of the BMW 3 Series range with an innovative spaciousness and practicality. Familiar BMW proportions, four doors with frameless windows, a coupe-style roofline sloping down smoothly to the rear, a large, automatically opening and closing tailgate, and a long wheelbase all define the individual character of the BMW 3 Series Gran Turismo. The driver and passengers (front and rear) benefit from a seating position raised by 59 millimetres compared to the Sedan, while the rear passengers also enjoy generous legroom. The BMW 3 Series Gran Turismo has a load capacity of 520 litres.

- **Asian premiere: the BMW Concept Active Tourer.**

BMW presents an innovative vehicle concept for the premium compact segment, fusing cutting-edge functionality with a fresh view of Sheer Driving Pleasure. The BMW Concept Active Tourer offers sporting proportions packaged within an exterior length of 4,350 millimetres and combined with a generously-sized, flexible-use interior. BMW eDrive technology in the form of a plug-in hybrid drive system ensures top-class BMW dynamics and efficiency.

- **Asian premiere: the BMW M6 Gran Coupe.**

To experience the time-honoured fascination of M cars at its most exclusive, look no further than the BMW M6 Gran Coupe. Here, the aesthetic appeal and luxurious character of a four-door coupe join forces with superior performance attributes underpinned by race-bred powertrain and chassis technology. With its M TwinPower Turbo technology and 412 kW/560 hp, the BMW M6 Gran Coupe's high-revving V8 engine has the means to power the new BMW M GmbH flagship model from 0 to 100 km/h (62 mph) in 4.2 seconds. Added to which, the rear compartment of the BMW M6 Gran Coupe offers two passengers generous long-distance comfort to complement the unmistakable M experience and includes a third seat suitable for use over shorter distances.

- **Two glimpses of the future: the BMW i3 Concept and BMW i8 Concept.**

Just a few months before the market launch of its first series-produced model, the new, sustainable mobility-oriented brand BMW i gives the Auto Shanghai 2013 audience a comprehensive preview of its future product range, design language and vehicle technology with two concept cars. The BMW i3 Concept with a pure electric drive system and the BMW i8 Concept plug-in hybrid sports car study offer their own unique versions of BMW eDrive powertrain technology to deliver undiluted driving pleasure. In addition, BMW i uses a selection of other innovations to show how intelligent energy management and extensive connectivity can optimise the cars' electric driving range to suit customers' individual mobility requirements.



## **2. BMW at Auto Shanghai 2013. (Long version)**

### **2.1 The BMW Concept X4. The next chapter in the Sports Activity Coupe story.**

Every new BMW X model is a trailblazer. Indeed, the world premiere of the first BMW X model (the BMW X5) in 1999 saw the BMW Group call into being the Sports Activity Vehicle (SAV) segment – one in which BMW X models remain the market leaders. The BMW X3 and BMW X1 were likewise the first SAVs in their class and continue to set the pace among their rivals today. This development took on a new dimension in May 2008 with the introduction of the BMW X6 – the first Sports Activity Coupe (SAC). This still unique concept brought together the rugged looks of a BMW X model with the emotional aura and sporting character of a BMW Coupe for the first time. The enduring popularity of BMW's first SAC is borne out by its consistently high sales figures. The short history of the BMW X range is already a successful one. Since the first BMW X model took to the stage, average sales across the BMW X line-up have progressed on a constant upward curve: one in four new BMW cars is now a BMW X model.

With the BMW Concept X4, the BMW Group offers a preview of the future of the BMW X family. It takes no more than a first glance to see how smoothly the qualities of a BMW X model can blend with the genes of a BMW Coupe. The new Sports Activity Coupe concept from BMW is poised to continue the success story of the BMW X6 in a new vehicle class. Eye-catching proportions, tight contours and numerous high-quality details produce an unrivalled product character brimming with emotional appeal, dynamism and the sturdiness you would expect from a BMW X model, while at the same time holding out the promise of outstanding performance and driving dynamics. All of this can be experienced when the BMW X4 production model rolls out of the factory for its market launch, scheduled for as early as 2014. The second Sports Activity Coupe in the brand's model range will be built at BMW Plant Spartanburg in the USA, the competence centre for BMW X models which also produces the BMW X5, BMW X6 and BMW X3.

The sporting character of the BMW Concept X4 is articulated by its dynamic linework as well as its proportions. With a body length of 4,648 mm, a width of 1,915 mm and a height of 1,622 mm, its exterior dimensions signal sporting

elegance and powerful robustness. In addition to a long bonnet, short overhangs and set-back passenger cell, its signature BMW features include a long wheelbase measuring 2,810 mm, while 21-inch light-alloy wheels lend an added flourish to the athletic bearing of this Sports Activity Coupe.

### **A front end with an urban sporting presence.**

The front-end styling of the BMW Concept X4 exudes hallmark BMW dynamics and the rugged purpose and presence of a BMW X model in equal measure. Classical BMW features such as the kidney grille and stylised twin circular headlights give the front end a clear identity and ensure it shines out as a BMW the first time you set eyes on it. The BMW Concept X4 lavishes both these front-end design icons with meticulous detail and three-dimensional depth. The large kidney grille stretches out within a solid-looking surround. The high-gloss frame is open to the sides and at its lower extreme, lending it an almost “floating” appearance in the centre of the front end. The grille features prominently sculptured bars with ultra-stylish detailing. The hollowed out, high-gloss black bars have a milled lower third with a matt finishing, which lends the kidney structure extra visual depth. And the grille also comprises additional air apertures to ensure an increased supply of cooling air to the engine.

The kidney grille is flanked by dynamically contoured full-LED headlights. Inside the light units, a flowing, hexagonal interpretation of the familiar BMW twin circular appearance points to an unwavering focus on the road ahead. The horizontal continuation of the inner light elements creates a visual connection with the grille, accentuating once again the width of the front end. This dynamic impression extends to the front apron. In keeping with BMW Coupe tradition, the side air intakes are larger than the inner units and make a visual feature of the increased cooling air requirement – while satisfying that need. Together with the car’s wide track and low centre of gravity, the intakes represent a promise of exceptional performance capability. The side air intakes pick up on a stylistic theme from the kidney grille; their black horizontal bars are, like the grille’s, partly milled out but boast gleaming chrome edges. It all makes for an enticing contrast of materials, a fusion of high-end quality with the characteristic robustness of BMW X vehicles.

This design theme concludes in the underride protection element, where three milled out, gleaming chrome elements present a high-quality take on the modern preference for minimalist solidity.

### **Side view with an extrovert edge.**

The qualities of a BMW X model merge with the values of a BMW Coupe in the muscular silhouette of the BMW Concept X4. Its proportions present a persuasive case for the BMW Concept X4 as the most dynamic vehicle in its segment. In hallmark BMW style, a longer wheelbase, relatively long bonnet, short overhangs and a set-back greenhouse lend the car an undeniable dynamism even when standing still. The striking interplay of surfaces creates a vibrant contrast of light and shadow that exudes a feeling of agility and power. Prominently rising lines mould the flanks into a wedge shape and give the car as a whole a forward-surgingly momentum.

The coupe-style roofline sweeps elegantly downwards and makes the car appear longer. Below, the windows extend well to the rear, where they are bordered by a dynamic interpretation of BMW's signature Hofmeister kink. The stretched and shallow band of glass creates a persuasively dynamic link between the greenhouse and vehicle body, the slim glass surface giving the body an impressively powerful appearance. At the same time the visual centre of gravity is lowered, underlining the sporting mission statement summed up by the car's flanks.

The BMW Concept X4's contours include a new interpretation of the familiar BMW swage line, a pair of dynamic lines defining the eye-catching impact of the side view. A concave area under each swage line lends the flanks an almost sculptural expression – at once robust and dynamic. The surface volumes and definition of the contours deepen as they extend towards the tail and imbue the rear end with added stature. Here, the powerfully flared wheel arches team up with the concave surface below the rear swage line to visualise the power rippling through the rear wheels. The radiant exterior paint shade Long Beach Blue is a perfect match for the elaborately structured volumes and contours, and brings particular depth to the expressive design language.

Fitting the BMW X template, the wheel arches of the BMW Concept X4 are large and almost square in design. This prominent emphasis on the wheels

draws further attention to the car's planted stance and long wheelbase, while at the same time providing a visual showcase for the xDrive intelligent all-wheel-drive system. The pared-back, matt black protective cladding provides the final element of bodywork before the BMW Concept X4 meets the road.

Expressive 21-inch bi-colour light-alloy wheels round off the car's appearance when viewed from the side. Intricate, high-gloss polished spokes provide visual allure, while behind them dark-coloured flame surfaces contribute an impressive feeling of depth.

### **Cutting-edge presence for the rear.**

The rear of the BMW Concept X4 takes the sporting, width-accentuating elements of the front-end design and reproduces them with an emphatically horizontal flavour. The body's lines and the slim LED tail lights positioned at the outer edges of the rear emphasise the muscular wheel arches and wide track. Below, horizontal lines split the rear visually into sections, while light surfaces reduce the car's visual height and underline its width.

The shallow rear window gives the vehicle body an even more powerful impression and its broad shoulders a show-stealing presence. Looking further down, the L-shaped rear lights of the BMW Concept X4 underscore its consummate stance on the road. A full-sized inner element in the tail lights, meanwhile, replicates the signature BMW "L" shape in three-dimensional form and with impressive depth.

The most striking element at the back of the car is the rear apron, which provides a wide, full-length interpretation of the front apron's large outer air intakes. The apron's cut-out picks up the two exhaust tailpipes in a dynamic sweep before diverting the gaze to the wheels. Body-colour elements reaching well down towards the road surface provide a high-quality border for the rear end and re-emphasize the road-focused proposition of the BMW Concept X4.

The underride protection acts as the body's lowest edge. Matt black surfaces lower the car's perceived height and accentuate the robust BMW X character of the rear. As at the front of the car, three milled elements in gleaming chrome add a sophisticated touch to the underride protection.

## 2.2 Spaciousness and practicality in an aesthetic form: The 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 and performs a genuinely unique role within the range. The new body variant in the current model family combines the Sedan's dynamic, sporting genes with impressive practicality and versatility, as well as generous levels of space and driving comfort. The BMW 3 Series 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 model 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 electric 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 designers' clever use of proportions, surfaces and lines ensures that the Gran Turismo is immediately recognisable as a member of the new BMW 3 Series range

### **Impressive long-distance comfort in a unique lounge-style 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 occupants all benefit from a raised seating position, which provides an outstanding view out and makes entry and exit significantly more comfortable. Plus, the BMW 3 Series Gran Turismo also offers excellent headroom and particularly admirable legroom for rear-seat passengers. 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 unique dimensions and can accommodate 520 litres of cargo. 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. And practical features such as lashing points, multifunction hooks and an underfloor storage compartment make it even more convenient to use. The high-end character of the BMW 3 Series Gran Turismo is underlined here by LED light strips to illuminate the load area.

### **Three petrol engines power the GT off the start line.**

Customers in China can choose from a selection of three powerful, refined and economical engines – covering an output range from 135 kW/184 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. In all models, power is sent to the rear wheels via an eight-speed automatic gearbox as standard.

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 long wheelbase and standard specification including 17-inch light-alloy 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 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 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.

### **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 further increase levels of passenger comfort in the new BMW 3 Series Gran Turismo.

## 2.3 Pairing 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 the 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 an 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.

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 seatbacks, 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 (approx. 20 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 CO<sub>2</sub> 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. To this end, ECO PRO mode reduces the power of the interior air conditioning and other electrically operated comfort functions 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 to 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.

## 2.4 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 it to offer two or three rear seats.

### **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 all 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 carbon fibre-reinforced plastic (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 equipment 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 CO<sub>2</sub> 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 maximise the traction-enhancing effect. Its electronically controlled multi-disc limited-slip differential works hand-in-hand with the DSC (Dynamic Stability Control) system and splits the drive between the right and left rear wheels according to the situation at hand.

### **Chassis technology developed to M specifications.**

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.



## **2.5 Intelligent range-enhancing solutions: BMW i3 Concept and BMW i8 Concept.**

The future of individual mobility is drawing near. With just a few months to go before the market launch of its first series production model, the new BMW i brand presents two concept vehicles at the 2013 Auto Shanghai. Both cars espouse the brand's guiding principle of sustainable mobility and offer a comprehensive preview of the future product range, design language and technology of the brand's vehicles. Thanks to their close-to-production character, the BMW i3 Concept and the BMW i8 Concept also provide Shanghai with an authentic impression of the brand's potential range of models while at the same time embodying the holistic approach with which the BMW Group is addressing the challenges of individual mobility in the future. The focus here is on an all-new vehicle architecture concept, extensive use of carbon fibre-reinforced plastic (CFRP) and BMW eDrive powertrain technology. These pivotal attributes are individually configured in both the BMW i3 Concept, a vehicle specifically conceived for all-electric mobility in an urban environment, and the BMW i8 Concept, a study for a plug-in hybrid sports car.

BMW i stands for visionary vehicles and mobility services, an inspiring design and a new definition of the premium character of cars that attribute particular significance to the aspect of sustainability. The BMW Group will start supplying customers with driver-friendly, premium-quality electric mobility later this year in the guise of the BMW i3, whose technology is a response to the social, ecological and economic challenges of our times. It will be followed soon afterwards by the BMW i8, whose BMW eDrive technology combines a combustion engine with an electric drive and stationary-rechargeable lithium-ion batteries to create an extraordinarily dynamic driving experience coupled with extremely low fuel consumption and emission figures.

## **BMW Group researches electric mobility requirements through worldwide field trials.**

Based on high-intensity studies, the BMW Group has gleaned solid insights into the framework conditions and customer requirements relating to electric mobility. Extensive research projects and the analysis of realistic field conditions have furnished valuable know-how on the subject. However, electric mobility supposedly still faces two principal challenges: 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 every two to three days. The BMW i3 comfortably meets this target, with a range of between 130 and 160 kilometres (80 to 100 miles) in day-to-day operation. This also means that out-of-town journeys are perfectly feasible.

### **Intelligent energy management increases distances.**

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.

### **BMW i3 – the world’s first fully networked electric vehicle.**

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 around 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).



## 2.6 Three BMW Group innovation centres in China: a DesignworksUSA Studio, a ConnectedDrive Lab and a technology office, all in Shanghai.

With a third innovation centre in China's teeming metropolis of Shanghai, the BMW Group has further expanded its international creative network. The newly opened facility is an additional corporate Technology Office, which aims to integrate into its vehicles new technologies from the Chinese market – also sourced from beyond the traditional automotive sphere. DesignworksUSA, a BMW Group subsidiary with bases in the USA and Europe, has had a studio in southern China since 2012. And the ConnectedDrive Lab, whose products are tailored to the Chinese market, is located in the same building in the former French Concession quarter in Shanghai's Huangpo district. It was the culture, diversity and future-oriented vision in this city of 19 million that clinched the decision to establish three innovation centres in Shanghai.

### **BMW Group DesignworksUSA: global perspectives on design.**

The design studio in Shanghai opens new doors for design development and consultancy, and offers international clients key insights into the Asian market. Customers in Asia, meanwhile, benefit from BMW's global creative perspective. The transfer of international partnerships to the new location is making waves in the region and paving the way to an exciting market for clients from Europe and America. "With its new studio in Shanghai, BMW Group DesignworksUSA has a base in the centre of one of the fastest-growing and most influential consumer goods markets in the world," explains Laurenz Schaffer, President of BMW Group DesignworksUSA. "Here we are gaining insights into a fascinating culture and at the same time contributing to the pulsating development of the design field in this region. Both will expand our creative skills," Schaffer adds.

The services offered by the new DesignworksUSA Studio range from product design, vehicle design, transportation design, environment and communication design, colour and materials design, design communication, research and strategic consultancy, innovative technologies for design and product development, all the way to 3D visualisation and model building. Among the team are designers from the region, as well as staff who have already gathered experience in the subsidiary's other studios in the USA and Europe.

The metropolis of Shanghai, with its fascinating conjunction of tradition and innovation, has grown to become one of Asia's leading centres. "Shanghai as a location for the BMW Group and for DesignworksUSA is of great importance from both a strategic and a creative standpoint," says Adrian van Hooydonk, Senior Vice President BMW Group Design. "For me Shanghai is one of the most exciting cities in the world. The future is experienced at a new pace here," he adds. "Anyone who wants to understand China has to get to know Shanghai, its traditions and the impulses that come from this cultural and business hub. That's the benefit for our design teams."

DesignworksUSA is a subsidiary of the BMW Group and a creative consultancy with a global reach, focusing on transport and product design as well as strategic design consultancy. The renowned design studio, which was acquired by the BMW Group in 1995, acts as an ideas factory and think tank for the design studios of the BMW, BMW i, MINI and Rolls-Royce Motor Cars brands. DesignworksUSA gains its global, cross-industry perspective through projects for a large number of international clients in and beyond the automobile sector.

### **ConnectedDrive Lab: solutions from China for China.**

In addition to facilities in Munich and Mountain View, California, the BMW Group operates another global development centre in Shanghai for its ConnectedDrive Services. In the same building in which the DesignworksUSA Studio has also been set up, the new ConnectedDrive lab is developing forward-looking networking functions on the convenience, infotainment and safety front which are specifically aimed at Chinese customers. In 2012 one of the latest developments in this area, the Apps option, was introduced in the Chinese market. Apps allow, for example, the use of social networks like SinaWeibo and Kaixin, as well as popular Chinese online music channels such as Douban FM or Baidu Music, in BMW and MINI models. The app concept is an advanced and highly flexible platform which facilitates the seamless integration of new functions into the BMW ConnectedDrive or MINI Connected systems already installed in the vehicle. At the same time, customers benefit from very short development periods and simple distribution through App Stores.

Further innovative software and electronic functions are also being developed in China. User experience concepts specific to Asia in the areas of infotainment and navigation, as well as innovative driver assistance systems such as traffic sign recognition, are being designed on the spot by a cross-cultural but mainly Chinese team. In addition, strategic initiatives are possible, including the development of an open source infotainment platform specially designed for the Asian market.

Favoured by its central location in the heart of one of the world's most modern megacities, the ConnectedDrive Lab is also developing tailor-made solutions for networked electric vehicles. The development of intelligent connectivity and navigation services, the integration of vehicles into home energy management systems (HEMS), and technology for the sustainable and environmentally sensitive storage and buffering of energy all enable customer-friendly electric mobility at a premium level.

The development staff collaborate closely with the BMW Group's Research and Innovation Centre in Munich. "It's very exciting to manage a young, interdisciplinary team here in China as part of a global development network," says Alexis Trolin, head of the BMW Group ConnectedDrive Lab in China. "As a megacity, Shanghai is a location of worldwide importance for innovation and trends. It produces groundbreaking ideas for design, mobility and the key technologies for the future. After a short running-in phase, our team of 28 highly qualified and highly motivated development engineers, user-interface concept designers and software experts will bring the first innovative functions to the market: designed by Chinese engineers specially for Chinese customers."

### **Technology Office: tracking trends in China.**

With the new Technology Office China, the BMW Group is expanding its internationally established R&D network by an additional ideas hothouse in the most populous nation on the planet. Like the BMW Group's big development centres in Beijing and Shenyang, the new facility in Shanghai pays attention to the specific requirements of the Chinese market.

"The core objective of our team is to examine new trends and technologies in China – both from the automotive and non-automotive spheres – to see if they are applicable to BMW products and to introduce them into our vehicles

as quickly as possible,” explains Carsten Isert, Head of BMW Group Technology Office China. Starting from the basis of the global trends of “urbanisation” and “megacities”, research into revolutionary forms of mobility and services is an important element in the team’s work.

Short communication paths, rapid decision-making and a feel for innovations in China are what distinguish the dynamic, eight-strong team. In practical terms this means identifying trends and testing them in prototypes. If the innovation is successful, the prototype is transferred to the product development process for advanced or series development.

For some years, the Technology Offices in the USA (Mountain View, California) and Japan (Tokyo) have been an important component of the BMW Group’s internationally established R&D network. They play a large part in the shaping of individual and sustainable premium mobility as well as the related services. The pulsating megacity of Shanghai creates a unique environment for the BMW Group Technology Office China; its innovative companies and outstanding universities furnish the ideal context for creative work. Intensive networking with external partners throughout China is an important element in the daily research work to ensure that it is possible, at a very early stage, to pick up on areas of innovation in China and take them into account.