



Media Information
For Immediate Release
9 September 2011

BMW Innovations Xpo

BMW Asia showcases award-winning technologies:

- **BMW EfficientDynamics**
- **BMW ConnectedDrive**

Singapore. BMW Asia today showcased its award-winning technologies: the BMW EfficientDynamics and BMW ConnectedDrive at the BMW Innovations Xpo at Keppel Island Plaza from Sep 9 to 11.

Derived from BMW's sustainability strategy of the efficient usage of the world's energy resource and conservation of the environment, BMW EfficientDynamics technologies have been developed to reduce fuel consumption and CO2 emission while performance is increased. The key principles of BMW EfficientDynamics include; Optimization of engines, Intelligent energy management, Lightweight construction and Aerodynamics.

To date, BMW EfficientDynamics has won numerous internationally recognized awards, including the "World Green Car of the Year" award for the BMW 118d, and contributed to the BMW Group being named 'The World's Most Sustainable Car Company' by the Dow Jones Sustainability Index for the sixth time in a row.

BMW ConnectedDrive is the epitome of intelligent networking of driver, vehicle and the environment. Its product portfolio includes numerous innovative features which considerably raise the level of convenience during the journey, allow infotainment to be experienced in a whole new dimension and significantly increases the level of safety for people both inside BMW automobiles and for those in the vicinity.

BMW ConnectedDrive has recently won four prizes in the internationally renowned "Plus X Award" in the categories of Innovation, Design and Operating Comfort. It has also been honoured as the "Best Technology of the Year 2011" with an additional "Plus X Award" seal of quality.

Company
BMW Asia Pte Ltd

BMW Group
Company

Head Office
1 HarbourFront Avenue
#15-02/07
Keppel Bay Tower
Singapore 098632

Telephone
+65 8389600

Fax
+65 8389610

“The BMW Innovations Xpo has been designed to present to our customers the advanced technology found within BMW automobiles, through various interactive stations such as the xDrive Torque Shift Demonstration, Active Steering and Surround View Obstacle Course, and the Park Assistant Demo Drive,” said Mr. Neil Fiorentinos, Managing Director of BMW Group Asia.

“We hope that the hands-on activities at this event will enable our participants with a better understanding of the true prowess of the BMW EfficientDynamics and BMW ConnectedDrive technology, and how they contribute to the sheer driving pleasure that the brand is known for.”

The event also debuts the new 1.6-litre 4-cylinder petrol engine with BMW TwinPower Turbo technology, which will be available in the new BMW 1 Series slated to launch in Singapore later this year.

“This compact 1.6 litre engine that will power the new BMW 116i and BMW118i, is part of a new generation of BMW petrol engines that combines instantaneous power delivery of up to 14 and 27 hp more than their respective predecessor models, while demonstrating exemplary fuel consumption of up to 10 percent,” added Mr Fiorentinos.

BMW EfficientDynamics

The philosophy of Efficient Dynamics covers all areas of automobile development within the BMW Group. And since this includes the development of fundamentally new solutions, researchers in materials technology search consistently for new materials helping to optimise the weight of the car and enhance driving pleasure accordingly.

BMW Group specialists working in this area have a level of competence and know-how truly outstanding not only within the automotive industry. Indeed, in the demands they make of new materials, BMW's development specialists set significant standards in the area of materials research. And at the same time they are in a position to upgrade the latest findings in scientific research quickly and efficiently to the standard of perfection required for practical use. As a result, the customer receives a vehicle which, in the sum total of its qualities, always represents the latest state of the art – which means also making specific parts and

components out of materials which did not even exist before in this form and thus give a BMW truly unique qualities.

**BMW EfficientDynamics:
Philosophy, principle and technologies.**

Lower emissions, less fuel consumption and more driving pleasure: No other car maker besides the BMW Group applies this principle so convincingly and successfully in practice. Both today and in a long-term comparison, BMW Group is far ahead of all competitors in the premium segment in reducing both fuel consumption and CO2 emissions.

This unique position held by the BMW Group is the result of the Efficient Dynamics development strategy comprising all innovations serving to reduce fuel consumption and emissions versus the former model and, at the same time, enhance road performance to an even higher standard.

This is made possible by the fundamental, all-round philosophy of BMW EfficientDynamics. Optimization of vehicle efficiency is indeed the guideline applied by the BMW Group in all areas of vehicle development, bearing testimony to the unique competence of the BMW Group in terms of powertrain, transmission and suspension technology, promoting the intelligent flow of energy within the vehicle as well as the intelligent choice of materials for superior lightweight construction, and ensuring the permanent optimization of aerodynamics.

BMW Group has consistently been in the quest of new technological developments to further progress in the context of EfficientDynamics – lower fuel consumption, less CO2 emission and, yet, more driving performance, as reflected in the recent investments in the ATC Aerodynamics Test Center and Energy and the ETC Environmental Test Center.

As the world's most successful manufacturer of premium cars, the BMW Group readily faces this responsibility and develops an above-average commitment in offering Sheer Driving Pleasure on even less fuel and with even lower emissions.

**Debut of the new 1.6-liter 4-cylinder petrol engine
with BMW TwinPower Turbo technology.**

The 1.6-liter petrol engines making their debut in the BMW 116i and BMW 118i models use

BMW TwinPower Turbo technology, consisting of a twin-scroll turbocharger, High Precision Injection, VALVETRONIC and Double-VANOS. The forced-induction system uses the twin-scroll principle, with separate ducts both in the exhaust manifold and the turbocharger itself, each serving one pair of two cylinders. Output is also boosted by VALVETRONIC variable valve control, which is fully integrated into the cylinder head, and Double-VANOS variable camshaft control on the intake and exhaust sides. The new petrol engines are also unusually fuel-efficient, thanks mainly to HPI High Precision Injection.

The four-cylinder engine of the new BMW 118i, which has an all-aluminium crankcase, has a maximum output of 170 hp at 4,800 rpm, and a maximum torque of 250 Nm at between 1,500 and 4,500 rpm. Transferring its power via the 8-speed automatic gearbox, the new BMW 118i accelerates from 0 to 100 km/h in 7.5 seconds. The exceptional responsiveness comes with improved efficiency, which is reflected in the average fuel economy of 5.8 liters per 100 kilometers, or 17.2 kilometers per liter, and average CO₂ emission of 134 grams per kilometer (EU combined-cycle).

The new BMW 116i's four-cylinder engine provides significantly improved driving dynamics compared to the predecessor model. It has an output of 136 hp at 4,400 rpm and a maximum torque of 220 Nm between 1,350 and 4,300 rpm. Delivering the power via the 8-speed automatic transmission, the BMW 116i accelerates from a standing start to 100 km/h within 8.5 seconds, yet with average fuel economy of 5.6 liters per 100 kilometers, or 17.9 kilometers per liter and average CO₂ emission of 131 grams per kilometer (EU combined-cycle).

Eight speed automatic transmission with Automatic Start/Stop function

BMW's eight-speed automatic transmission is yet another example of how outstanding engineering qualities are able to offer a significant improvement in driving pleasure and, at the same time, far greater efficiency than ever before.

This innovative power transmission excels in particular through its exceptional efficiency and wide range of qualities. At the same time, through its special characteristics, the eight-speed transmission raises both the motoring comfort and the dynamic performance of the respective model to an even higher standard.

Converter slip limited to the lowest range of engine speeds, a high degree of inner efficiency, low frictional losses with only two clutches open at a time, the longer transmission ratio of the higher gears, and the improved suppression of vibrations enabling the driver to use the car much more at low speeds, help to reduce fuel consumption versus the former six-speed automatic transmission by approximately 6 percent.

A further important point is that the eight-speed automatic transmission enhances the dynamic qualities of the engine by opening and closing only one clutch at a time in nearly all gearshifts, even when shifting down by more than one gear. This offers an important benefit so far provided only by the double-clutch gearbox and combined in this case with all the benefits of an automatic transmission relevant to the customer, such as dynamic acceleration from low engine speeds.

The eight-speed automatic transmission with an Auto Start-Stop function, which is currently available in the BMW 5 Series, BMW X3 and BMW 6 Series, will also feature in the new BMW 116i and BMW 118i slated to launch in Singapore in late 2011. When stopping at road junctions or in a traffic jam, the engine is automatically switched off.

**Extensive range of BMW EfficientDynamics features;
Future technologies, available today in BMW automobiles.**

In addition to the optimization of engine and transmission efficiency, BMW Group engineers have developed and implemented the intelligent energy management features in BMW automobiles, for example, EPS Electric Power Steering, demand-controlled ancillary components such as water pumps and oil pumps, and tires with reduced rolling resistance. Other advanced technologies include active aerodynamics, intelligent lightweight engineering and Brake Energy Regeneration.

Active aerodynamics and intelligent lightweight technology.

Active control of the air flaps in the radiator grille and the brake air shafts enhances the car's overall efficiency to an even higher level. The air flaps are opened only when the engine really requires additional cooling air, while remaining closed when not required in order to optimize the car's aerodynamics. A further point is that the appropriate use of high-strength steel as well as aluminium and plastics wherever appropriate serves to reduce the weight of the body, the engine and other components.

Brake Energy Regeneration.

This intelligent energy management feature efficiently generates electric power for the car's on-board network. To provide this effect, the alternator is activated only when the engine is in overrun and when applying the brakes, thus relieving the engine of the usual loads and power uptake. Instead, Brake Energy Regeneration generates electric power from energy otherwise wasted as lost heat in the brake system of a conventional car, enhancing fuel economy by approximately 3 percent in the EU test cycle.

BMW ConnectedDrive

BMW ConnectedDrive as a personal assistant and adviser provides information when appropriate and anticipates when you might need help, while boosting sheer driving pleasure.

With its range of driver assistance systems and mobility services that is unrivalled worldwide, BMW ConnectedDrive delivers maximum comfort, infotainment and safety in the car. Thanks to the intelligent networking of driver, vehicle and environment, needs-based information is on hand at all times, enhancing driving pleasure even further. The range of services offered by BMW ConnectedDrive is being steadily expanded.

BMW was the world's first automotive company to introduce many of them into production vehicles, and many of them are exclusive to BMW models.

BMW ConnectedDrive Convenience, Infotainment and Safety

Under the term BMW Connected Drive, BMW already unites a unique portfolio of innovative features that enhance comfort, raise infotainment to new levels and significantly boost safety in BMW Group vehicles. Whether it is the BMW TeleServices, Surround View (including Side View and Rear View cameras), Bluetooth Office, Head-Up Display, email and internet access, or hooking up mobile phones and audio players – thanks to BMW ConnectedDrive features, your car can be your personal concierge, guardian angel or entertainer, as the situation demands.

In future, Connected Drive will be extending this portfolio with numerous new features arising from the link-up between driver, vehicle and surroundings. On the information and

entertainment front, for example, connecting with web servers is opening up fresh possibilities, while mobile devices mean that vehicle functions can be used virtually anywhere, and application-based programming ensures the car functions are as up-to-date and extendible as possible.

In terms of safety, Connected Drive innovations significantly widen the driver's scope of action and reaction, so that in critical and poor-visibility situations on the motorway, in heavy city traffic or when parking, the BMW driver assistance systems help avoid hazardous situations and accidents, or mitigate their consequences.

Driver's Profile transfer via USB Enhanced Convenience

BMW customers can immediately feel at home in any BMW: Driver's Profiles allow personal vehicle settings to be transferred via USB. This is particularly helpful when several BMW vehicles are used alternately, for example company vehicles or within the family: BMW Driver's Profiles enable you to transfer personal driver settings from one BMW to another. A total of 160 settings for mirror and seat position, driver assistance systems or the sound profile for the radio can be individually saved and transferred.

This feature is currently available in all BMW car models with the iDrive system.

BMW 7 Series with the Mobile Office Via the Bluetooth Office function

From March 2011 onwards, customers of the BMW 7 Series can use the time spent inside their vehicles even more effectively. Thanks to wireless Bluetooth technology, important smartphone office features can be transmitted to the vehicle display and operated via the iDrive Controller.

The familiar Bluetooth interface now enables the on-board display of smartphone data such as calendar, messages, and to-do lists. Operating these smartphone functions via the iDrive Controller maximizes convenience. The focus is on optimized on-board presentation of information and messages, with intuitive operation and a convenient, easy-to-read display. In the case that the customers of the BMW 7 Series choose to drive on their own, the narrator function can read out notes and calendar entries and even e-mails.

HUD Head-Up Display

Vision assistance system for maximum safety

The HUD Head-Up Display function is currently available in the selected BMW models like the new BMW 5 Series Sedan, BMW 6 Series Convertible, etc. The HUD makes it safer and more convenient by allowing the drivers to keep their eyes on the roads, as well as simultaneously provide important information in the driver's line of sight. As an instance, in a car travelling at 100 km/h, a mere second that it takes the driver to look at the speedometer, the car will have covered around 28 meters. That means 28 meters travelled blind; something that could have fatal consequences. This is where the BMW Head-Up Display comes in. Derived from information technology for jet pilots, it makes driving safer. Drivers can take in key information such as navigation instructions and current road speed without averting their eyes from the road. The information is projected directly into their field of vision. The Head-Up Display is a great help, especially on longer journeys, at night and in complicated traffic situations, and significantly enhances safety.

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About BMW Group

The BMW Group is one of the most successful manufacturers of automobiles and motorcycles in the world with its BMW, MINI and Rolls-Royce brands. As a global company, the BMW Group operates 25 production and assembly facilities in 14 countries and has a global sales network in more than 140 countries.

During the financial year 2010, the BMW Group sold 1.46 million cars and more than 110,000 motorcycles worldwide. The profit before tax for 2010 was euro 4.8 billion on revenues amounting to euro 60.5 billion. At 31 December 2010, the BMW Group had a workforce of approximately 95,500 employees.

The success of the BMW Group has always been built on long-term thinking and responsible action. The company has therefore established ecological and social sustainability throughout the value chain, comprehensive product responsibility and a clear commitment to conserving resources as an integral part of its strategy. As a result of its efforts, the BMW Group has been ranked industry leader in the Dow Jones Sustainability Indexes for the last six years.

About BMW Group Asia

Established in 1985, Singapore is the regional office for BMW Group Asia, which has market responsibility for all importers in the East Asia region, as well as the BMW Group subsidiary in Indonesia.

The Singapore office is also the regional centre for key corporate functions from purchasing to treasury centre and financial services. It is also home to BMW Group DesignworksUSA and the regional office for Rolls-Royce Motor Cars.

The BMW Group presents three brands - BMW, MINI and Rolls-Royce Motor Cars.
For more information:

BMW Asia Pte Ltd

Corporate Affairs Department

Sethipong Anutarasoti

Tel: +65 6838 9630

Email: sethipong.anutarasoti@bmwasia.com

Daniel Chan

Tel: +65 6838 9639

Email: daniel.chan@bmwasia.com

Media Website: BMW Group PressClub Asia

www.press.bmwgroup.com