

**Media Information**

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**BMW enhances its Efficient Dynamics portfolio with the new generation four-cylinder featuring BMW TwinPower Turbo technology.**

**Singapore.** BMW Asia today announced the impending arrival of the new generation TwinPower Turbo petrol engine to Singapore. In sync with BMW's overall strategy in extending its Efficient Dynamics portfolio, this will be the first time that the new generation four-cylinder engines are fitted with BMW TwinPower Turbo technology which significantly increases output while maintaining exceptional fuel efficiency.

This four-cylinder engine is further derived from the multi-award winning straight six-cylinder petrol engine with BMW TwinPower Turbo technology used on the BMW 535i.

The expansion of the Efficient Dynamics portfolio is a commitment to sustainability, which in turn is a long-term company strategy of the BMW Group. In 2011, for the seventh time in a row, the BMW Group is named the most sustainable automobile manufacturer in the world by the Dow Jones Sustainability Index.

The Efficient Dynamics strategy has established itself worldwide as a trademark for exceptionally effective measures for reducing the fuel consumption and emission levels of new vehicles.

"With BMW's EfficientDynamics strategy, we have at our disposal the most effective concept in the world for leading individual mobility, by reducing fuel consumption and emissions while enhancing performance concurrently," said Mr Neil Fiorentinos, Managing Director of BMW Group Asia.

"In fact, Efficient Dynamics has been so successful that the BMW Group has managed to lower the CO2 emissions of its new vehicle fleet in Europe by as much as 30 percent over the past 15 years. By the beginning of 2011, the BMW Group's model range comprising of 52 vehicles only emits a maximum CO2 emission level of 140 grams per kilometer, of which 19 of them further boasts an emission level of no more than just 120 grams per kilometer."

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The constant reduction in fuel consumption and CO2 emissions is always accompanied by a further enhancement of driving pleasure. This advancement, which is characteristic of BMW, is guaranteed in particular by a fundamental engine strategy. It ensures that innovations realized by BMW Group engineers are incorporated into all models at an early stage and to the full extent.

“Efficient Dynamics is the guiding principle in all areas of vehicle development, and one of the main pillars of this strategy includes the continuous increase in the efficiency of internal combustion engines,” added Mr Fiorentinos.

Today, the BMW Group employs significant efficiency-optimizing technologies on engines of different size and power output. In the case of the four and six-cylinder petrol power units using the BMW TwinPower Turbo technology, they come with various features including; optimized air supply by means of VALVETRONIC, efficient combustion through precise fuel-air mixture supply facilitated by High Precision Injection, as well as state-of-the-art turbo technology.

### **Powered by the BMW Turbocharged engine technology**

The turbocharger is a Twin Scroll system. The exhaust streams leaving the two pairs of cylinders are kept completely separate as they flow through the exhaust manifold and the turbocharger, taking a spiral path to the turbine wheel. This configuration results in very low exhaust backpressure at low engine rpm, and allows the energy of the exhaust gas pulses to be optimally managed and translated into powerful rotation of the turbine blades, without a response delay. This leads to an immediate response to each movement of the accelerator pedal and the high-revving characteristics so typical of BMW engines.

In normally aspirated engines, responsiveness could only be enhanced to the same degree by significantly increasing capacity, and therefore weight and fuel consumption. The design draws on the BMW engineers' long experience of building high-performance turbo engines. The BMW 2002 turbo, launched in 1973 with a four-cylinder, 170hp engine, was the first European production car to be fitted with an exhaust gas turbocharger, and is still regarded as the template for a compact, high-performance driver's car. In 1983, the first turbocharged engine to win a Formula 1 world championship was Brabham BMW driven by Nelson Piquet.

### **New BMW 1 Series with the BMW TwinPower Turbo technology**

The new BMW 1 Series will soon be available in Singapore in two variants – BMW 116i and BMW 118i.

Both the new BMW 116i and BMW 118i are equipped with the new four-cylinder 1.6-litre petrol engines, featuring BMW TwinPower Turbo technology. This includes a twin-scroll turbocharger, High Precision Injection, VALVETRONIC variable valve control and Double-VANOS variable camshaft control.

Thanks to the inclusion of BMW TwinPower Turbo technology, 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. It is exceptionally responsive, accelerating the car from 0 to 100 km/h in 7.5 seconds and on to a maximum speed of 222 km/h. Improved efficiency is reflected in combined-cycle fuel consumption of 5.6 litres per 100 kilometres and CO<sub>2</sub> emissions of 131 grams per kilometre (EU test figures).

The four-cylinder engine of the new BMW 116i too 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. What is more, the overboost function temporarily increases this torque figure to 240 Nm between 1,500 and 3,500 rpm, for an extra surge of acceleration. The car takes 9.1 seconds to reach 100 km/h from a standing start, and has a maximum speed of 210 km/h. Fuel consumption over the combined cycle is 5.6 litres per 100 kilometres, and CO<sub>2</sub> emissions are 131 grams per kilometre (EU test figures).

The key to the low fuel consumption of the new BMW 1 Series range is the efficiency of its engine. A new generation of four-cylinder petrol engines with BMW TwinPower Turbo technology sets a new benchmark for the combination of fuel economy and driving enjoyment. The outputs of the BMW 116i and BMW 118i are 20 and 34 hp more than their respective predecessor models, yet at the same time, fuel consumption has been reduced by up to 28 per cent.

### **BMW 5 Series range: even more efficient thanks to BMW TwinPower Turbo**

The BMW 5 Series Sedan with four-cylinder engines with BMW TwinPower Turbo technology will soon be available in Singapore in two variants – BMW 528i and BMW 520i.

With the launch of a new generation of four-cylinder engines with BMW TwinPower Turbo technology, the BMW 5 Series engines for the upper mid-range market now lead the way on efficiency and sporty power delivery in the petrol segment too. This world-exclusive technology equips the two 2.0-litre engines with twin-scroll turbocharging, High Precision Injection direct injection, VALVETRONIC variable valve timing and Double-Vanos variable camshaft timing. This combination of features is inspired by the technology package used on the multi-award-winning 306 hp six-cylinder in-line BMW TwinPower Turbo engine of the BMW 535i. Now BMW has adopted this highly efficient performance-boosting technology in the four-cylinder engines as well. The system, which delivers the exhaust gases from each pair of cylinders to the turbine via two separate channels, both in the exhaust manifold and in the turbocharger itself, provides more responsive performance. The fuel supply is precisely metered by the direct-injection system with solenoid injectors, while the latest version of the VALVETRONIC system provides even more precise air mass control and, in combination with Double-Vanos variable intake and exhaust camshaft timing, optimises both efficiency and response.

As fitted in the new BMW 520i, the four-cylinder engine develops maximum power of 184 hp at 5,000 rpm and peak torque of 270 Nm, which is available between 1,250 and 4,500 rpm. Instantaneous power response helps the BMW 520i Sedan perform the 0 to 100 km/h sprint in 8.0 seconds. Top speeds are 226 km/h for the Sedan. Simultaneous efficiency improvements are reflected in average fuel consumption (as per EU test cycle) of 6.4 litres per 100 kilometres and CO<sub>2</sub> emissions of 149 grams per kilometre.

In the new BMW 528i, with modified turbocharging and injection technology, the four-cylinder engine develops maximum power of 245 hp at 5,000 through 6,500 rpm, and peak torque of 350 Nm, which is available between 1,250 and 4,800 rpm. 0 to 100 km/h is accomplished in 6.3 seconds for the new BMW 528i Sedan. Top speeds are 250 km/h for the Sedan. The new BMW 528i Sedan achieves average fuel consumption (as per EU test cycle, depending on tyre format) of 6.5 litres per 100 kilometres and CO<sub>2</sub> emissions of 152

grams per kilometre.

The new generation four-cylinder engines are fitted with BMW TwinPower Turbo technology will soon be appearing in the BMW X1, BMW X3 and BMW Z4 models as well.

For more information, please visit [www.bmwasia.com](http://www.bmwasia.com).

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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, Husqvarna Motorcycles 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 seven years.