BMW GROUP
ASIA

Media Information
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The BMW i8.
Most progressive plug-in hybrid sports car.

Singapore. The BMW i8 - the first BMW plug-in hybrid sports car built with the revolutionary LifeDrive architecture and advanced lightweight material like carbon-fibre-reinforced-plastic (CFRP), is now available at Performance Motors Ltd.

The BMW i8 features the latest BMW EfficientDynamics technology, including a rear-mounted 1.5-litre three-cylinder petrol engine with BMW TwinPower Turbo technology that can generate up to 231hp and a maximum torque of 320 Nm. It also features a hybrid synchronous electric motor that can channel a maximum output of 131hp and maximum torque of up to 250 Nm to its front wheels via a two-stage transmission, during which it is capable of delivering zero tailpipe emissions.

"When the BMW TwinPower Turbo and BMW eDrive technology are activated concurrently, the BMW i8 is capable of producing up to 362 hp and 570 Nm that can propel the car from 0-100km/h in just 4.4 seconds. Yet, the BMW i8 has the fuel economy and emissions better than a small car at an amazing 47km per litre [2.1litres per 100km; as per average EU test cycle]," said Mr Sethipong Anutarasoti, Corporate Affairs Director of BMW Group Asia.

"Apart from its amazing performance and fuel efficiency, the BMW i8 is a sophisticated driving machine built with intelligent lightweight engineering using materials like CFRP. Notably, CFRP is five times stronger than conventional steel but weighs only half as much."

Best of both worlds:
BMW TwinPower Turbo engine and electric motor.
The plug-in hybrid drive system of the BMW i8, which comprises a BMW TwinPower Turbo engine combined with BMW eDrive technology, offers the best of both worlds: excellent potential for improved efficiency and exciting, sporty driving characteristics. The BMW Group has

developed not only the internal combustion engine and electric motor in-house but also the power electronics and the battery. This ensures that all these components offer high product and quality standards, based on the outstanding capabilities of the BMW Group in the field of powertrain research and development.

The revolutionary character of the BMW i8 is emphasised by a further innovation: the use of an internal combustion engine which is making its debut in this model. The BMW i8 powered by a three-cylinder petrol engine – a highly turbocharged unit that is equipped with the latest-generation BMW TwinPower Turbo technology. Exceptionally compact, it develops a maximum power of 231 hp from its 1.5-litre displacement. The resulting specific output of 154 hp per litre of displacement is on a par with high-performance sports car engines and is the highest of any engine produced by the BMW Group.

The new three-cylinder engine derives its typical characteristics from BMW's six-cylinder in-line engines, to which it is closely related and which are noted for their eager power delivery, revving ability and refinement. The three-cylinder's BMW TwinPower Turbo technology comprises a high-performance turbocharging system and direct petrol injection with high-precision injectors positioned between the valves, along with VALVETRONIC throttle-less load control, which improves efficiency and response thanks to seamlessly variable valve lift control. Like a six-cylinder engine, the three-cylinder unit is free of first and second-order inertial forces. The low roll torque, a typical feature of a three-cylinder design, is further reduced by a balancer shaft, while a multi-stage damper integrated in the automatic transmission ensures very smooth and refined running at low rpm. BMW TwinPower Turbo technology and low internal friction improve both fuel consumption and torque characteristics. Accelerator response is sharp and the three-cylinder unit quickly reaches its maximum torque of 320 Nm.

The car's second power source is a hybrid synchronous electric motor specially developed and produced by the BMW Group for the BMW i8. The motor develops maximum power of 131 hp and produces its maximum torque of around 250 Nm from standstill. Typically for an electric motor, responsive power is instantly available when starting and this continues into the higher load ranges. Credit for the linear power delivery, which extends right up to the high end of the rpm range, goes to a special motor design principle exclusive to BMW i. BMW eDrive technology refines and improves on the principle of the permanently excited synchronous motor with a special arrangement and dimensions for the torque-producing components. This result in a self-

magnetising effect normally confined to reluctance motors. This additional excitation ensures that the electromechanical field generated when current is applied remains stable even at high rpm.

As well as providing a power boost to assist the petrol engine during acceleration, the electric motor can also power the vehicle by itself. Top speed in full-electric mode is then 120 km/h. The BMW i8 has a maximum driving range in this emission-free, virtually soundless, all-electric mode of up to 37 kilometres. The motor derives its energy from the lithium-ion battery which is centrally mounted underneath the floor of the vehicle. This model-specific version of the high-voltage battery was developed and produced by the BMW Group. It features an evaporative cooling system that offers a gross energy capacity of 7.1 kilowatt hours and can be recharged from a BMW i Wallbox or at a public charging station.

The BMW i8's vehicle concept and powertrain control system mark it out as a progressive, revolutionary sports car. The BMW i8 always achieves the optimal balance between dynamic performance and efficiency, whatever the driving situation. For example, the battery can also be recharged via the electric motor on the overrun. In addition to this, when power demands allow, the high-voltage battery is recharged by the electric motor. The high-voltage starter-generator, responsible for starting the combustion engine, can also be used as a generator to charge the battery, the necessary power being provided by the BMW TwinPower Turbo engine. These various processes help to ensure that the BMW i8 always has sufficient energy on board to power the electric drive system. The all-electric driving range is sufficient to cover most urban driving requirements. Out of town, the BMW i8 delivers impressively sporty performance extremely efficiently, thanks to the electric motor's power-boosting support for the petrol engine. With such versatility, the BMW i8 belongs to a new generation of sports cars which unites exciting performance with cutting-edge efficiency – to enhance both driving pleasure and the sense for sustainability.

The rear wheels of the BMW i8 are driven by the petrol engine via a six-speed automatic transmission, while the front wheels receive their power from the electric motor via a two-stage automatic transmission. Combined maximum output of 362 hp and combined peak torque of 570Nm provide all-wheel-drive performance which is as dynamic as it is efficient. The BMW i8's intelligent powertrain control system ensures perfect coordination of both power sources. The variable power-sharing between the internal combustion engine and the electric motor makes the

driver aware of the sporty temperament of the BMW i8 at all times, while at the same time maximising the energy efficiency of the overall system. Utilising both power sources enables a 0 – 100 km/h time of 4.4 seconds. The BMW i8 has an electronically controlled top speed of 250 km/h, which can be reached and maintained when the vehicle operates solely on the petrol engine.

Variable front-rear power splitting in line with changing driving conditions makes for excitingly dynamic cornering. On entering the corner, the power split is biased towards the rear wheels to improve turning precision. For more vigorous acceleration out of the corner, the powertrain controller returns to the default split as soon as the steering angle becomes smaller again.

LifeDrive architecture:
Maximising occupant protection.

The development of the LifeDrive architecture and the version of it used for the BMW i8 incorporated the latest knowledge from safety and accident research and the requirements of international crash test procedures. The high-strength passenger compartment teams up with the intelligent distribution of forces within the LifeDrive module to provide the cornerstones for optimum occupant protection. The crash-activated aluminium structures at the front and rear end of the Drive module provide additional safety. Impressive rigidity, combined with its ability to absorb an enormous amount of energy, makes CFRP extremely damage-tolerant. Even at high impact speeds it displays barely any deformation. As in a Formula One cockpit, this exceptionally stiff material provides an extremely strong survival space. Less body deformation occurs compared with comparable steel bodies. Furthermore, the doors can be opened without any problem and the interior remains largely free of intrusions. Rescue scenarios were worked through and checked as part of the development process. In standard cutting tests, the process of rescuing occupants from a BMW i8 involved in an accident was, in various scenarios, even more straightforward than that for conventional vehicles. That is because body components made from CFRP are lighter and can be more easily cut than high-strength steels, for example.

High-voltage lithium-ion battery.

Specially developed lithium-ion storage cells supply the drive system with the energy required. The BMW Group also utilises its technological expertise in the development of numerous battery system components in order to bring about a comprehensive optimisation of the high-voltage battery pack. These include specific components which ensure the interconnection of the cells

themselves as well as the connection between the battery system and the vehicle. They also comprise the integrated control unit and the electronic components in the proximity of the cells, including battery management sensors. Apart from procurement of storage cells from a specialist manufacturer, all the development and manufacturing stages are carried out at the BMW Group.

The BMW i8 can be fully charged in under 3 hours via the BMW i Wallbox Pure, which is a 230V wallbox with a charging power of 3.7 kW and a current strength of 16 amperes.

Upon the purchase of a new BMW i vehicle, its high-voltage lithium-ion battery will come with a warranty coverage of up to 8 years (from the starting date of the warranty period) or a maximum mileage of 100,000km, whichever comes first.

BMW ConnectedDrive technology:
Intelligently connected.

The BMW i8 comes with an embedded SIM card that provide drivers with navigation services specially developed to enhance electric mobility alongside familiar features including the Concierge Services and the Intelligent Emergency Call. Moreover, drivers can use the BMW i Remote app to share information with their car at any time using their smartphone.

The BMW i8 in Singapore comes with a range of BMW ConnectedDrive features including Full-Colour Head-up Display, Park Distance Control, Surround View, Intelligent Emergency Call, Concierge Services, and Real-Time Traffic Information, among its extensive list of options which come standard in Singapore.

BMW i Remote App.

The BMW i Remote App enables its drivers to control their BMW i vehicles via their smartphones. Charge Control identifies charging levels and allows them to manage the charging process remotely. Vehicle Status, meanwhile, provides them with their vehicle's battery status, electric range, position and maintenance updates. Whereupon a BMW i vehicle is connected to a charging station, drivers can start and end the charging process from a distance or even control it with a timer.

Using the BMW i Remote App, drivers can also lock or unlock their BMW i vehicles' doors. And if the drivers can't seem to find their vehicles, the BMW i Remote App can lead them to their cars

via a map displayed on their smartphones. The BMW i Remote App can also be used to activate the cars' horn and lights to help owners locate their car easily.

Drivers can also use the app to precondition both the battery and interior of the BMW i vehicle. Preconditioning uses grid power to ensure favourable battery conditions and a comfortable cabin in optimum temperature before the journey even begins, which is especially helpful during warm weather. The BMW i Remote App Navigation function further shows points of interest and charging stations, and sends them to the BMW i vehicles, thereby making navigation within megacities easier, enjoyable and more efficient.

360° ELECTRIC:

An all-rounded portfolio of services.

BMW i offers an extensive range of products and services in its 360° ELECTRIC portfolio designed to meet all individual customer needs for energy supply and journey planning.

The 360° ELECTRIC is an all-rounded portfolio of services comprising four key pillars that will come standard with every BMW i car.

(1) Home Charging,
(2) Public Charging,
(3) Flexible Mobility, and
(4) Assistance Services.

The spectrum of services ranges from; the installation of the BMW i Wallbox Pure, easy access to public charging stations in Singapore operated by Greenlots, the flexibility of access to alternative vehicles from BMW to meet a specific situation, and round-the-clock service, 24/7, 365 days a year.

All brand-new BMW i vehicles will come with BMW Service Inclusive Plus that provides free maintenance (except tyres) up to 3 years or a maximum mileage of 60,000km, whichever comes earlier.

The new BMW i8 is available for viewing at Performance Motors' showroom.

Additional information enclosed:

1. The BMW i8 price list.
2. The BMW i8 specifications.

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The BMW Group
With its three brands BMW, MINI and Rolls-Royce, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial and mobility services. As a global company, the BMW Group operates 30 production and assembly facilities in 14 countries and has a global sales network in more than 140 countries.

In 2013, the BMW Group sold approximately 1.963 million cars and 115,215 motorcycles worldwide. The profit before tax for the financial year 2013 was € 7.91 billion on revenues amounting to approximately € 76.06 billion. As of 31 December 2013, the BMW Group had a workforce of 110,351 employees.

The success of the BMW Group has always been based 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.

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About Performance Motors Limited (PML)
Performance Motors Limited (PML) is a member of the Sime Darby Group and the distributor of BMW cars and BMW motorcycles in Singapore since 1979.

PML has achieved various accolades in the area of sales achievement and service excellence in its 30-year history in the luxury segment.

2002 - In an industry first, PML initiated a customer lifestyle and rewards programme which most recently evolved into the 'BMW 7 Series Privileges Programme Plus' – a distinctive lifestyle and rewards programme that is exclusively available to owners of the new BMW 7 Series in Singapore. Exclusive premium experiences covering golfing, driver

training, chauffeur services and lifestyle have been specially designed with the discerning taste of the BMW 7 Series customers in mind.

2003, 2004 - PML received awards from BMW Asia in recognition of the BMW 7 Series' segment leadership.

2005 – PML sales powered to the top of the Singapore luxury car market. PML added to its collection of BMW awards with the Best Sales performance in the Asia region. PML sales established BMW as the leading premium car brand in Singapore.

2006, 2007– PML claimed market leadership among premium car brands in Singapore making it three consecutive years. The flagship BMW 7 Series limousines used to transport world leaders during the 2006 World Bank meetings and all key government events, was once again reaffirmed as the choice for leaders as the official car for various high-profile events such as Barclays Singapore Open, the ASEAN Ministerial Meetings and the Singapore Airshow.

2008 - PML opened the new Sime Darby Performance Centre, the benchmark BMW Sales and Aftersales facility in Asia, in September. The existing two premises at Sime Darby Centre and East Coast Centre continue to serve BMW customers and strengthen PML's service excellence in conjunction with this new Performance Centre at 303 Alexandra Road.

2009 - BMW continued to be the limousine of choice for the APEC meetings. PML was honoured as one of the Top 3 entries in the category Conquest BMW 7 series of BMW Excellence in Sales 2009, the international competition for outstanding sales performance.

2010 – PML broke the 4,000 unit sales record and set a new milestone in its retail history with a remarkable achievement of Top Luxury Car Brand in Singapore. PML reopened its refurbished Aftersales facility in East Coast Centre (ECC), at 280 Kampong Arang Road.

2011 - PML became the first ever luxury car brand dealer to surpass the competition, in a highly competitive car market that has traditionally been dominated by volume driven marques. This is the first ever situation anywhere in the world where BMW is the leading car brand.

2012 – PML continued its trailblazing success and retained pole position as the dealer representing the Number One car brand in Singapore for a second consecutive year. PML's Motorrad division proudly recorded a year-on-year increase in sales by 50%. BMW continued to be the official limousine for the Barclays Singapore Open for the sixth consecutive year.

2013 - BMW is appointed the official limousine of the 2013 International Maritime Defence Exhibition and Conference. Performance Motors sponsored a fleet of 220 units of BMW 5 and 7 Series for the high-profile conference dedicated to maritime defence. BMW Motorrad achieved remarkable growth to become the top selling luxury bike in Singapore for the second consecutive year.

1. The BMW i8 price list.

Model	Retail price (at press time)
BMW i8	$599,800

- BMW Service Inclusive Plus: Provides free maintenance (except tyres) up to 3 years or a maximum mileage of 60,000km, whichever comes earlier.
- High-voltage lithium-ion battery warranty: Up to maximum of 8 years or maximum mileage of 100,000km, whichever comes first.
- Prices and equipment are accurate at press time. These are subject to change without prior notice.
- Package price includes:
  1st year road tax, number plates; In-vehicle unit (IU), registration fees; GST; Certificate of Entitlement (COE); Wallbox Pure Charger, including basic installation and on-site assessment; Flexible mobility solution – 5 days usage of BMW 320i Sedan for the first year of ownership
- Inclusive of CEVS rebate.

2. The BMW i8 specifications.

BMW i8

Engine: 1.5-litre In-line three-cylinder petrol engine with BMW TwinPower Turbo technology and High Precision Injection and VALVETRONIC.
Max output: 231 hp at 5,800 rpm
Max torque: 320 Nm at 3,700 rpm

Battery: BMW eDrive technology with Hybrid synchronous motor integrated power electronics, charger and generator mode for recuperation.
Max output: 131 hp at 4,800 rpm
Max torque: 250 Nm at 0 rpm

Combined:
Max output: 362 hp
Max torque: 570 Nm
Acceleration: 0-100 km/h in 4.4 seconds
Top speed: 250 km/h
Average power consumption to the EU standard: 2.1litres/100km
Combined CO_2 emissions: 49 g/km (as per average EU test cycle)
90 g/km (as per LTA figure)

BMW i8: General Specifications
Length/width/height: 4,689 mm / 1,942 mm / 1,293 mm
Luggage comp capacity: 154 litres
Weight (unladen): 1,485kg