

Media Information

BMW eDrive technology. Setting a new benchmark for efficiency.

BMW eDrive technology includes a number of cutting-edge plug-in hybrid components and makes a significant contribution to reducing fuel consumption and emissions. BMW eDrive is one of the most cutting-edge elements of the groundbreaking BMW EfficientDynamics suite of technology.

Designed for different vehicle concepts.

The most important components of BMW eDrive technology are the synchronous electric motor (including the power electronics developed by BMW), the lithium-ion high-voltage battery and intelligent energy management. The latter ensures the electric motor and combustion engine in plug-in hybrid models work together as effectively as possible according to the situation at hand.

Developed initially for the all-electric BMW i3 and BMW i8 plug-in hybrid sports car – which duly led the way in electric mobility in the premium sector – the modular structure of BMW eDrive technology sets it up perfectly for use in various vehicle concepts and segments. BMW uses its plentiful technical experience and customer feedback in the development of the latest BMW eDrive models. The fine-tuning of vehicle-specific elements, such as the battery cells, cooling management, power electronics and operating strategy, has involved the transfer of knowledge from the BMW i3 and BMW i8 to the development of new BMW eDrive models. Here, all components are adapted precisely to the vehicle at hand and optimised in terms of performance, efficiency, safety and durability. Moreover, BMW eDrive technology enables the electrified xDrive concept first featured in the BMW i8 to be executed with great efficiency.

BMW eDrive: familiar BMW character, flexible usage options.

BMW eDrive technology essentially spans the electric motor, the lithium-ion high-voltage battery and the power electronics. Based on a shared eBoost strategy, all BMW plug-in hybrid models offer supreme power delivery by bringing together their two drive systems, and elevate the responsiveness of BMW TwinPower Turbo technology to another new level. BMW eDrive makes all-electric driving in urban areas and over cross-country routes a marketable proposition. An important element of the operating strategy is the need-oriented use of

externally sourced and recuperated electric energy to maximise the vehicle's efficiency. The components of the BMW eDrive architecture are tailored to each particular vehicle concept and can be combined with four- and three-cylinder petrol engines as well as with classical rear-wheel drive, BMW xDrive or electrified all-wheel drive.

The eDrive components developed as part of the BMW i projects will soon be integrated into other model ranges from the core brands. This scalable architecture also provides the platform required to offer plug-in hybrid vehicles at attractive prices on a par with those of conventionally powered variants of similar output. This means customers who opt for this advanced drive concept encounter not only the environmental benefits of electric mobility, but also economic plus-points.

Plug-in hybrid: energy management at its most intelligent.

In plug-in hybrid vehicles, intelligent energy management ensures the combustion engine and electric motor work together to maximum effect in all driving situations. Their operating strategy is based on the vehicle starting up on electric power only. BMW's plug-in hybrid vehicles prioritise electric mode at low and moderate speeds, which allows them to exploit the benefits of the locally emission-free electric drive system. Under greater acceleration and at higher speeds, however, the combustion engine also joins the action. The boost function pools the torque of both drive systems to maximise the car's dynamic performance and lend it remarkable poise and assurance. BMW eDrive ensures that the combustion engine runs efficiently (electric assist) at higher speeds as well. This allows a reduction in fuel consumption on brisk cross-country or motorway runs, for example. And when the route guidance function of the car's navigation system is activated, the proactive function initiates an anticipatory operating strategy which optimises efficiency and maximises the electric driving experience.

Like the BMW i8, the BMW X5 xDrive40e, BMW 330e and BMW 740e can all – at the touch of a button in MAX eDRIVE mode – run on purely electric power up to 120 km/h, the BMW 225xe up to 125 km/h. Here, the combustion engine only comes into play when the accelerator's kickdown threshold is passed. In SAVE BATTERY mode the battery's charge can be maintained to enable electric driving later on in the journey. If the charge level drops below 50 per cent, the battery is replenished.

With the addition of the BMW eDrive functions, the ECO PRO, COMFORT and SPORT driving experience modes are now even more clearly defined than on conventional vehicles.

Fast and convenient battery charging.

The high-voltage batteries of the new BMW plug-in hybrid models can be charged extremely easily, conveniently and quickly – both at home and while on the move – using BMW 360° ELECTRIC solutions. The battery can be powered up again from a domestic socket using the standard charging cable supplied or from the BMW i Wallbox Plus (charging power: 3.7 kW). When it comes to topping up the battery during a journey, the BMW i mobility service, ChargeNow, gives customers access to Singapore's largest network of 60 public EV charging stations at 37 locations spread across the island.

Higher performance, lower fuel consumption.

The new BMW plug-in hybrid models with eDrive technology – such as the new BMW X5 xDrive40e, the BMW 740Le xDrive, BMW 530e, BMW 225xe and BMW 330e currently making their debuts– are once again setting the benchmark in the various corners of the premium segment when it comes to reducing fuel consumption, and will also meet the stipulations of international legislation in the future regarding CO2 emissions. And yet the BMW plug-in hybrid models also deliver the hallmark BMW attributes of dynamic excellence, sporting ability and driving pleasure while offering the best performance in their respective segments.