



Media information  
2. May 2016

## **More range, high-level dynamic performance: BMW i expands its model range for the BMW i3.** **BMW i3 (94 Ah) with more powerful battery delivers a range of up to 200 kilometres under everyday conditions.**

**Munich.** BMW i is expanding the model range of its compact electric car, the BMW i3 and from summer will be offering a version with significantly increased battery capacity. The BMW i3 (94 Ah) has a capacity of 33 kilowatt hours (kWh) thanks to the higher storage density of the lithium ion cells. The battery dimensions remain unchanged with over 50 per cent range increase in the standard NEDC cycle which equals 300 kilometres instead of 190 kilometres. Even in everyday use, in bad weather conditions and with the air conditioning or heating turned on, 200 kilometres of range can be achieved on one full battery charge. The driving performance figures of the 125 kW/170 hp hybrid synchronous electric motor remain virtually unchanged. The motor propels the BMW i3 from 0 to 100 km/h in 7.3 seconds. This makes the BMW i3 both the sportiest and most efficient electric vehicle in its segment with an electricity consumption of 12.6 kWh/100 km (NEDC). The BMW i3 with 60 Ah battery, which has been on the market for two years, remains part of the model range. In addition, the model variant with Range Extender will still be available for both battery versions. The 2-cylinder petrol engine keeps the charge level of the battery constant while driving provides an additional range of 150 kilometres (BMW i3 (94 Ah)/BMW i3 (60 Ah): combined fuel consumption 0.6./0.6l/100 km; combined electricity consumption: 11.3/13.5 kWh/100 km; combined CO<sub>2</sub> emissions: 12/13 g/km)\*. This broadens the model range of the best-selling premium electric vehicle in its segment worldwide to four versions. With the introduction of the BMW i3 (94 Ah), BMW i also offers new and more powerful charging stations for home garage use as well as new equipment options. Additionally, customers can have their first-generation battery retrofitted as part of a special retrofit programme and have the new battery type installed – this is made possible thanks to the modular and flexible design of the BMW i3.

### **Higher storage density of the the battery cells.**

The BMW i3 (94 Ah) sets a new benchmark in its segment with 94 ampere hours (Ah) cell capacity, approx. 33 kWh battery energy and an electric range of 300 kilometres according to the New European Driving Cycle (NEDC) in combination with hallmark BMW driving performance.

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\* The electricity consumption figures were calculated based on the ECE test cycle, dependent on tyre format.





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Consuming only 12.6 kWh/100 km (NEDC), it is the most efficient car with the lowest electricity consumption costs of 3.15 EUR/100 km\*\*, or even lower. The range of the new BMW i3 (94 Ah), on a full battery charge with the air conditioning or the heating on has been significantly increased to 200 km in everyday use. This is achieved with no subjective loss of driving performance and agility: in spite of the considerably higher battery density, the BMW i3 (94 Ah) almost reaches the record figures held by the BMW i3 (60 Ah) in the segment of compact electric vehicles. Both BMW i models strike the ideal balance between efficiency, performance and range. From standstill to country-road speeds, the BMW i3 (94 Ah) is on par with sporty, conventionally combustion engine powered cars.

The high-voltage battery of the BMW i3 consists of eight modules with twelve storage cells each and its capacity has increased significantly without any changes in exterior dimensions. By optimising the cell-internal packages with more electrolyte and adapting the active material, BMW and Samsung SDI have succeeded in increasing cell capacity to 94 Ah and overall battery energy to 33 kWh of which 29 kWh can be effectively used. The battery of the BMW i3 (60 Ah) produces 22 kWh (gross)/19 kWh (net).

### **A benchmark also in terms of sustainability.**

The BMW i engineers only had to undertake minor modifications to integrate the new battery. Already in the development phase of the BMW i3, the entire architecture of the electric drivetrain was designed with the next technological steps in mind. Now that the battery modules need to be climatized, no structural changes are necessary. This highlights how universal and forward thinking the vehicle concept really is. As before it is also possible to exchange a single battery module instead of the entire battery if required in the BMW i3. This is a stand-alone feature within the competitive field and represents an integral component of the holistic BMW i concept of sustainability. The BMW i3 continues to score significantly better than a modern diesel or petrol engined car in the overall CO<sub>2</sub> balance consisting of supply chain, production, service life and recycling.

When the BMW i3 was launched in 2013, it was the first car with a TÜV-certified life cycle assessment, which was at least one third better than reached by any conventional car. This is achieved to a large extent through the CO<sub>2</sub> free electricity

\*\* Depending on the price of electricity, here set at 0.25 €/kWh.



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supply of the BMW i production sites in Leipzig (assembly) and Moses Lake (CFRP production) as well as through the use of 70 per cent less water in the production process compared to conventional automobiles.

The lithium ion cells used, set themselves apart in the competitive field by achieving a special balance between high energy density, cycle stability and safety in the case of a crash. The coolant of the air conditioning system is responsible for cooling the high-voltage battery very effectively. An optional heating system can also be used to heat the battery to ensure the optimum operating temperature of 20 degrees Celsius before starting off. The battery has been designed to last for the car's entire service life. Customers receive an 8-year or 100,000 kilometre warranty on the battery.

### **Retrofit programme: the battery can be exchanged optionally.**

The main focus at BMW i is on sustainability. The customer is given the assurance that his BMW i3 can be adapted to the latest technical developments in a resource-saving way. This is safe-guarded by the flexible LifeDrive vehicle architecture. The BMW i3 is the first automobile in the premium compact segment in the world to have been designed from scratch as a purely electrically powered vehicle. This design also includes retrofitting new battery technologies.

With the introduction of the new 94 Ah battery, BMW gives BMW i customers the opportunity of retrofitting their purely electric BMW i3 (60 Ah) with the new 33 kWh battery as part of a high-voltage retrofit programme. This programme is available in selected markets. The 22 kWh batteries traded-in by customers are used to build stationary storage battery modules thus starting their second life. This effectively proves how sustainable BMW i technology is across its entire production and service life cycle.

### **Optimised performance delivery, more efficient drive.**

The BMW i3 is by far the lightest car in its segment. Despite of the weight increase to now 1,245 kilograms, the BMW i3 (94 Ah) is characterised by driving performance, which is subjectively as agile as the 60 Ah model variant. This has been achieved by modifying power electronics and systems management and results in an optimised performance curve. In addition, there is the physically related improvement of the voltage curve under load for the new 94 Ah battery.



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The BMW i3 (94 Ah) is also powered by the hybrid synchronous electric motor especially developed by the BMW Group. The power unit generates an output of 125 kW/170 hp and delivers 250 Newton metres of torque which is available from standstill. The BMW i3 (94 Ah) completes the sprint from 0 to 100 km/h in 7.3 seconds. It reaches a speed of 60 km/h within a mere 3.8 seconds.

The sporty elasticity performance figure of 5.1 seconds for accelerating from 80 to 120 km/h, a decisive factor for enabling fast and safe passing manoeuvres, is normally only achieved by combustion engine powered cars with considerably higher outputs. In this domain the BMW i3 (94 Ah) is on a level with cars such as the 240 kW (326 hp) BMW 440i Coupé (combined fuel consumption: 7.7–7.4 l/100; combined CO<sub>2</sub> emissions: 179/–172 g/km)\*. Power is transmitted to the rear wheels via the single-speed transmission which the BMW i3 uses to accelerate without torque interruption to 150 km/h (limited top speed for reasons of efficiency). This applies to both battery variants.

The electricity consumption of the BMW i3 (94 Ah) has also been reduced by a large number of detail improvements including revised electric motor management as well as advanced low-resistance tyres. In the NEDC it consumes 12.6 kWh/100 km. This is the best value in the competitive field. The BMW i3 (60 Ah) consumes 12.9 kWh/100 km.

### **New, faster charging electronics: three-phase charging up to 11 kW.**

In principle, a 50 percent higher battery capacity would also mean longer charging times – if the charging technology had not been adapted to the new requirements. In order to keep up with the increased battery capacity when charging with alternating current (AC), the AC fast charging system was developed. With the new 94 Ah battery, multi-phase AC charging is extended to 11 kW charging capacity and thus is in line with the charging capacity standards widely used in the public charging infrastructure.

\* The electricity consumption figures were calculated based on the ECE test cycle, dependent on tyre format.



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The new, higher-performance charging electronics of the BMW i3 (94 Ah) can use three-phase charging currents with 11 kW.

This represents a 50 percent increase compared to the BMW i3 (60 Ah). The 60 Ah model can be charged using single-phase alternating current at 7.4 kW. This means the charging time for the BMW i3 (94 Ah) is less than three hours, in spite of the significantly larger battery capacity – which is the same time it takes for today's 60 Ah battery at 7.4 kW charging current.

The BMW i3 is equipped with a charging cable as standard for connecting it to a domestic power socket. The BMW i3 (94 Ah) can be recharged in less than ten hours at a charging current of 2.8 kW. The BMW i3 (60 Ah) battery requires approximately eight hours for this. Core elements such as range, hallmark BMW agility thanks to low weight and overnight battery charging remain in place.

Today, the BMW i3 is equipped with the future-proof 50 kW direct current (DC) fast charging technology. When the BMW i3 (94 Ah) is connected to a DC fast charging station, the battery cells are charged up to a minimum of 80 percent of their capacity within less than 40 minutes. In the BMW i3 (60 Ah) this takes 25 minutes. This means that the BMW i3 (94 Ah) achieves a charging speed of 4 km/min which corresponds to 24 minutes charging time per 100 kilometres of range.

### **Range Extender for even greater range.**

BMW i also offers a Range Extender for the BMW i3 (94 Ah). The range of the BMW i3 is extended by a 650 cubic centimetre 2-cylinder petrol engine which is located in direct proximity to the electric drive above the rear axle. The Range Extender delivers a maximum output of 28 kW/38 hp and powers a generator in order to produce electricity. It operates on a needs-based and highly efficient principle. As soon as the charging level of the lithium ion batteries drops to a certain level, the Range Extender kicks in to keep the charging level constant thus extending the range by 150 kilometres under everyday conditions. Fitting the car with the Range Extender has no influence on the available luggage volume: the nine-litre fuel tank is installed in the front section. The luggage compartment volume remains unchanged at 260 litres and can be extended to 1,100 litres with the rear seats folded down.



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The BMW i3 (94 Ah) with Range Extender may weigh in with an extra 120 kilograms of weight but is also characterised by a high level of agility and offers impressive performance figures. It accelerates from zero to 100 km/h in 8.1 seconds. The emissions of the BMW i3 (94 Ah) with Range Extender amounts to 12 g/km CO<sub>2</sub> (NEDC) while the exclusively electrically powered BMW i3 produces zero emissions locally. This puts the BMW i3 (94 Ah) at the top of its segment with regard to performance figures and efficiency – whether as a purely electric vehicle or equipped with Range Extender.

### **New equipment.**

The BMW i3 (94 Ah) will be instantly recognisable in the colour Protonic Blue metallic, which is available exclusively for this model version. Up until now this was reserved for the BMW i8 hybrid sports car, but is now also available for the BMW i3. When configuring a BMW i3 (94 Ah), the customer can choose from two non-metallic paintwork colours (Capparis White and Fluid Black) and in addition to Protonic Blue, from three additional metallic paintwork colours (Mineral Grey, Platin Silver and Ionic Silver).

Four different interior designs are available for the BMW i3. Apart from the Atelier basic line: Loft, Lodge and Suite. In the future more combinations of the interior designs will be available for the BMW i3. The new elegant dark oak trim is a standard equipment in the Suite interior design. In all other interior designs the Dark Oak wood trim and the eucalyptus wood trim are available as options. The materials used are a mix of naturally treated leather, wood and wool as well as other renewable raw materials. These make the sustainable premium character of the BMW i3 both visible and tangible.

The Driving Assistant Plus equipment package is also available in the Atelier equipment line at sales start. Driving Assistant Plus consists of camera-based cruise control with Stop&Go function, traffic jam assistant, speed limit info, pedestrian and collision warning with city brake function and proactive driving assistant.

### **Most successful electric vehicle in its segment worldwide.**

The BMW Group took on a pioneering role when it founded the BMW i brand and decided to develop an independent vehicle structure and passenger cells made of



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carbon fibre reinforced plastic (CFRP) as well as BMW eDrive technology for purely electric drive. The BMW i3, which was designed for local emissions-free urban mobility, as well as the trail-blazing BMW i8 Plug-in-Hybrid sports car both deliver sheer driving pleasure combined with sustainability-oriented premium character. Within two years after its launch in November 2013, the BMW i3 has already established itself at the top of its segment. In Germany it is the best-selling electric vehicle on the market and in Norway it is the BMW model with the most new registrations (source: Polk/IHS 2014- 3/2016). The most important single market for the purely electric five door BMW i3 is the U.S. More than 80 per cent of buyers deciding on a BMW i3 worldwide are new customers for the BMW Group. The BMW i3 and the BMW i8 received a large number of awards for innovations in the areas of light-weight construction, drive, sustainability, driving performance and design. This makes BMW i the brand to win the most awards in the world during its market launch phase.

### **Comfortable home charging: the new BMW i Wallboxes.**

With the introduction of the BMW i3 (94 Ah) in summer 2016, BMW i will be offering a new BMW i Wallbox worldwide for comfortable and fast home garage charging or charging on a private parking space. This Wallbox has been adapted to the new charging technology and in addition to single-phase operation now also offers a charging capacity of up to 22 kW in three-phase operation.

The new Wallbox is characterised by a flatter and more compact design compared to its predecessor, but thanks to its increased performance can now charge the battery of the BMW i3 (94 Ah) in two hours and 45 minutes. The charging process starts automatically as soon as the car and charging cable are connected. The BMW i Wallbox is operated using an LED interface.

At the end of 2016 two additional Wallboxes will be available offering additional comfort and connected functions. This permits private or fleet customers to adapt the Wallboxes precisely to the needs of their different number of vehicles. Among other things the BMW i Wallbox Plus automatically detects the connected vehicles and associates the relevant charge data using a local smartphone app. The BMW i Wallbox Connect which features WiFi as standard provides full connectivity. It offers all the functions of the BMW i Wallbox Plus and features innovative charging services which can be controlled online. Different amounts of



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electricity are not only recorded for different vehicles but the data can also be e-mailed instantly after completion of the charging operation and thus used for accounting purposes.

Both the BMW i Wallbox Plus as well as the BMW i Wallbox Connect can be integrated into an intelligently connected house and it are currently compatible with MyGEKKO and Loxone control systems. This allows the BMW i3 to be charged using clean electricity generated directly by the solar system on the roof of your house.

In addition, the BMW i Wallboxes help save battery electricity as they can precondition the vehicle battery when connected up. During this preconditioning process, the air conditioning in the car and the heating of the high-voltage battery can be activated via smartphone. Prewarming the battery ensures optimum battery conditions even at low outside temperatures. This ensures highest-level battery performance, range and longevity. If the preconditioning is carried out using the BMW i Wallbox, the required electricity is not taken from the car battery, but from the energy supplier's mains system thereby not cutting down on the car's range.

BMW i, however, not only offers a wide selection of Wallboxes, but also provides a unique installation service including onsite installation assessment at the customer's, the supply and installation of the charging station as well as maintenance, consulting and other services.

### **On the go at home and abroad: comfortable charging thanks to ChargeNow.**

With more than 40,000 charging points run by different operators in currently 25 countries, ChargeNow by BMW i offers the largest network of publicly accessible charging points for electric and plug-in-hybrid vehicles worldwide. The ChargeNow card and the app of the same name give the customer comfortable access to all operators in the international network including cashless payment and billing. The complicated and time-consuming registration process with different providers is thus done away with completely. The driver is supported in finding and selecting one of the charging stations of the ChargeNow network by the service integrated into the navigation system as well as the related apps.



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### **ConnectedDrive: Setting standards through Connectivity.**

The optionally available Navigation System Professional provides BMW ConnectedDrive Services especially developed for BMW i. The range assistant follows the planned and currently driven route. If the destination selected in the navigation system is beyond the car's range, the driver receives the suggestion to shift to the ECO PRO or ECO PRO+ mode. Additionally, the system calculates a more efficient alternative route. Should it be necessary to recharge at a public charging station, the driver is shown all the available stations along the planned route.

A dynamic range map is another central element of the connected navigation unit. Apart from the current charging status of the battery, the driving style, the activated electric comfort functions and the selected driving mode, the topographic features, the current traffic situation and the outside temperature are all taken into consideration. The Real Time Traffic Information (RTTI) data is used for this purpose. The data is provided by the BMW ConnectedDrive Server.

The BMW i3 also sets standards when it comes connecting driver and car. The BMW i Remote App provides useful vehicle-related mobility planning data available on the customer's smartphone, too. Apart from pedestrian navigation for finding your way to your destination from the parking space and back, BMW ConnectedDrive offers a so-called intermodal routing system for the first time in combination with the Navigation System Professional. This also incorporates public transport connections if this means you can reach your destination more quickly. From the actual trip in the BMW i3, looking for a parking space, changing on to a bus or underground line to the last stage covered on foot, the BMW i ConnectedDrive services take the customer to his destination precisely and efficiently.

As before, the comprehensive range of standard equipment of the BMW i3 (94 Ah) and the BMW i3 (60 Ah) includes: the iDrive operation system, the BMW i RemoteApp functionalities, auxiliary heating, Driving Experience switch, Radio Professional, hands-free telephone operation, air conditioning, leather steering wheel, LED daytime driving lights, Park Distance Control (PDC) with rear sensors and the charging cable for connecting to a domestic power socket.



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## About BMW i.

BMW i is a BMW Group brand and stands for visionary vehicle concepts and technologies, connected mobility services as well as a new understanding of premium strongly defined by sustainability.

BMW i is represented in 50 countries with the vehicles BMW i3 (electric car for metropolitan regions) and the BMW i8 (Plug-in-Hybrid sports car).

BMW i also incorporates BMW iPerformance automobiles (all BMW Plug-in-Hybrid vehicles) and the associated mobility services DriveNow (CarSharing), ReachNow (CarSharing 2.0), ChargeNow (easy access to the biggest charging point network worldwide), ParkNow (easy search, reservation and payment of parking spaces), BMW i Ventures (investment in young companies with the focus on urban mobility) and the BMW i Urban Mobility Competence Centre (for consulting cities, towns and municipalities).

For further details on official fuel consumption figures, official specific CO2 emissions and power consumption of new cars, please refer to the "Manual on fuel consumption, CO2 emissions and power consumption of new cars", available at all sales outlets, from Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Schramhausen and at <http://www.dat.de/angebote/verlagsprodukte/leitfaden-kraftstoffverbrauch.html>. ManualCO2 (PDF 2 MB)

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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 2015, the BMW Group sold approximately 2.247 million cars and nearly 137,000 motorcycles worldwide. The profit before tax for the financial year 2015 was approximately € 9.22 billion on revenues amounting to € 92.18 billion. As of 31 December 2015, the BMW Group had a workforce of 122,244 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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