



## BMW i3

### Exhilarating

Review | In early 2007 a group of engineers received an unusual assignment: design the BMW of the future. It could be anything: a plane, a train, an automobile as long as it fulfilled the wishes of the customer of the future. The result is the "i3", a car that differs from other BMWs by both its looks and its technology. Is this indeed the car of the future?

While designing the "i3", BMW predicted two things: more and more people will live closely together in big cities, and because they are packed together it is important not to pollute the environment. That is why, according to BMW, a small electric vehicle was the logical solution. A compact car is manoeuvrable in city traffic and an electric car has no (direct) emissions.

### Concept

In due time BMW experimented with "electrification": converting existing models into electric models. This turned out to be the wrong approach. An electric car should be designed as an electric car from the start. Only in this way can the weight be distributed evenly (handling!) and the cabin space can be used efficiently. For example: an electric motor is hardly any bigger than a sizable kettle, so there's no need for an engine bay or a bonnet.

**"Both an environmental activist and a capitalist will feel right at home in the i3"**



This explains the odd looks of the i3. But rest assured: the biggest problem of the i3 is that this car is very un-photogenic. In real life the i3 looks better than in any picture. Both the photographers of BMW and Autozine did not manage to capture the true charm (yes, it really does exist!) of the i3.

Because it requires less energy to propel a lightweight car, BMW reduced weight in every way imaginable.

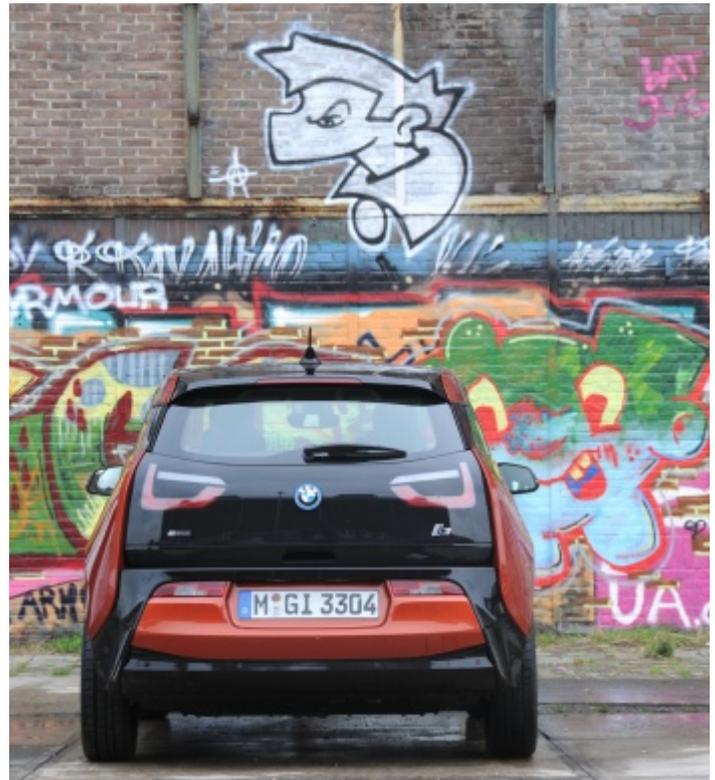
This starts by simply building a small car. Do notice the rear doors that open "the other way". Some of the space of the opening of the front doors is shared when reaching for the rear seats, saving precious centimetres.



The room in the front is fine; the headroom is even excellent. The steering column reaches far into the cabin, which remained odd even after several days of driving. The space in the rear is fair for a car of this size. The floor in the boot is rather high, making the trunk a bit smaller than average.

## Environmentally friendly

To save weight and reduce the impact on the environment, BMW searched and even invented new technologies and materials. The bodywork is made from (recycled!) aluminium, carbon fibre and plastic. In the cabin hemp, bare eucalyptus wood (a fast growing, European tree) and recycled PET-bottles have been used. The interior is a tasteful blend of new thinking with the premium quality one comes to expect from BMW. Both an environmental activist and a capitalist will feel right at home in the i3.



When it comes to standard equipment the i3 is also a true premium car. Some items are lacking (like dead spot detector) because the i3 is primarily meant for use in city traffic. The optional "Harman Kardon" audio system is worth the extra money; it is a real treat thanks to the crisp, clear and natural sound.

Just like most other electric cars, the i3 shows the remaining range on the map of the satnav. All charging stations are shown on the map as well. BMW takes it one step further by planning routes that include alternative modes of transportation. For example, "extended" instructions for use on a bicycle or in public transportation will be shown on an iPhone.



## Performance

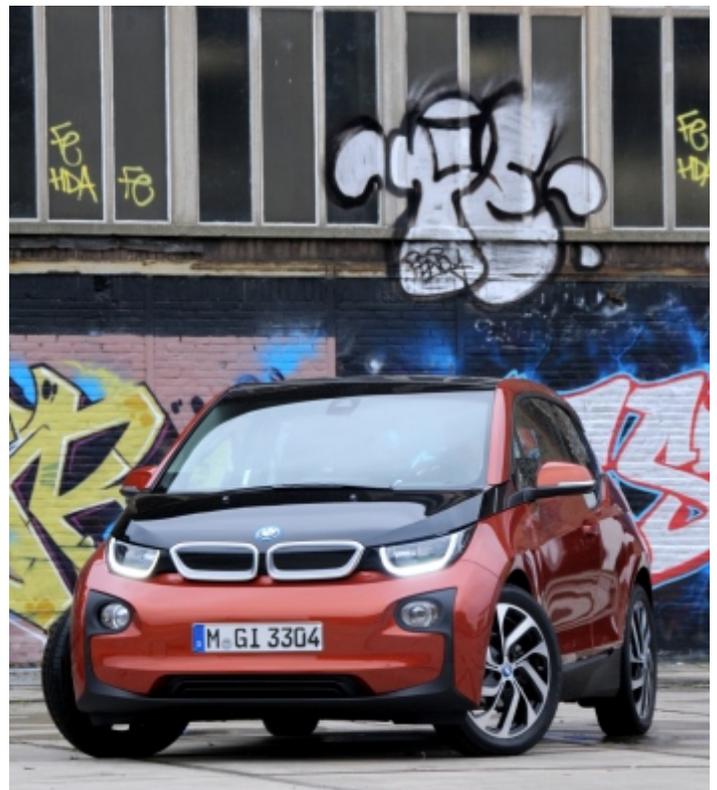
No matter how revolutionary the design is, a BMW should drive like a BMW. That is why the i3 is fitted with a very powerful electric motor. The i3 delivers 170 PS / 250 Nm and that makes it much quicker than its rivals. Accelerating from 0 to 62 mpg takes just 7.2 seconds. By comparison: the Tesla Model S does this in 6.2, but it's double the price.



Up to 85 mph the i3 accelerates fiercely and aggressively. Because there are no gear changes,

turbo lag or whatever, the i3 does this in one mighty move. To make matters even more interesting there's no roaring sound, which gives a sense of superiority. This car doesn't need to roar primitive mating calls to make a statement.

What also makes the i3 different from other electric cars is the clear choice for "one foot driving". There is a brake pedal, but it is rarely used. When releasing the throttle, the i3 decelerates so intensely that the brake lights will even be activated! Driving this way does require some getting used to, but in the end it is much more pleasant. Just as important: while reducing speed the i3 recuperates more energy than other cars, thereby extending its range.



## Range extender

Despite the revolutionary design, the i3 suffers from the one problem that haunts every electric car: a limited range. In theory, the i3 can cover 190 km on a full battery. For use in city traffic that's more than enough, but for that one long drive at the weekend it is too little. That's why the i3 is also available with a

"range extender": a small scooter engine that generates enough energy to travel another 150 km. For this test drive the purely electric model was provided since it is lighter, slightly faster and has a perfect 50/50 weight distribution.

How far the i3 can really travel on a full battery depends on the use of accessories (the aircon and heater consume lots of power) and weather. During a playful test drive (the i3 requires a lot of self control to drive calmly) just 110 km could be covered on a full charge. An economy drive (low speeds, all accessories turned off) lasted for 150 km.



## Conclusion

Is the BMW i3 the car of the future? Yes and no. For now the i3 is innovative and a real step forward. Thanks to the "range extender" the i3 can cover longer distances thereby making it a viable alternative for a larger audience. Another plus is the satnav, which can plan routes that include use of public transportation or bicycle. This makes the i3 less of a techno toy and more of a new way of transportation.

At this time the i3 is obviously just the first of a generation of electric vehicles. BMW was forced to save weight in every possible way to compensate for the heavy batteries. Battery technology still has a long way to go and BMW isn't ahead (nor behind) in this race.

The i3 is indeed a true BMW. Just like with the other models the i3 differs from other cars by a sporty character, innovative technology and a premium build quality. This makes the i3 different from the other BMWs, but just as desirable. ■

## Handling

The i3 weighs about 1,200 kg and that's a lot for a car of this size. The extra weight is caused by the batteries (lithium ion, 22 kWh strong, 230 kg in weight, made by Samsung). By mounting the batteries in the floor the centre of gravity is low, so handling is fine. It's only on speed bumps that the car feels heavy, in all other cases the i3 manages to mask its obesity well.

As it should be with a BMW, the i3 is a rear-wheel drive vehicle. The i3 sits on bespoke tyres which are narrow yet tall (155/70R19). In this way rolling resistance is minimal, while grip during accelerating and braking is good. This is why the feeling in the steering differs from traditional BMWs. Compared to other electric cars the i3 is spritely and agile, making it the most exhilarating electric car to date.



# Specifications

## BMW i3 Electric

### Size and weight



|                         |                    |
|-------------------------|--------------------|
| Length x width x height | 400 x 178 x 158 cm |
| Wheelbase               | 257 cm             |
| weight                  | 1.195 kg           |
| Trailer                 | unknown            |
| Trailer - braked        | unknown            |
| Battery                 | unknown            |
| Luggage space           | 260/1100 l         |
| Tyre size               | 155/70R19          |

### Engine and performance



|                         |                   |
|-------------------------|-------------------|
| Max power               | 170 PS @ 4200 rpm |
| Max torque              | 250 Nm @ 1 rpm    |
| Drive                   | Rear wheels       |
| Acceleration 0 - 62 mph | 7.2 secs          |
| topspeed                | 150 km/h          |
| Average mileage         | unknown           |
| Mileage urban           | unknown           |
| Mileage extra urban     | unknown           |
| Range                   | km (NEDC)         |
| CO2 emissions           | 0 gr. / km        |

### Price

|                  |           |
|------------------|-----------|
| Price            | Â£ 30,250 |
| Price base model | Â£ 30,250 |