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Mission Efficiency - Volkswagen presents the world's most efficient near-production electric car

- **Record-breaking aerodynamics¹** – Mission Efficiency² breaks record for all road-approved cars with a C_d value of 0.158
- **Record-breaking efficiency¹** – an average consumption³ of 6.89 kWh/100 km makes the Mission Efficiency the most economical electric car in its class
- **Pioneering new technologies** – Solar roof supports the vehicle's on-board electrical system, patented rim deflectors perfect flow characteristics
- **Large-scale production technology** – Mission Efficiency is based on MEB+ technology with front-wheel drive, like the ID. Polo and ID. Cross⁴
- **Trailblazing technology** – Mission Efficiency shows just how much influence aerodynamics have on the energy consumption and range of electric cars

Wolfsburg. With the new Mission Efficiency², Volkswagen is presenting the world's most efficient near-production electric car. The prototype has set three world records¹. They stand for exemplary aerodynamics and excellent ideal and real fuel consumption. The vehicle is a beacon of technology and at the same time demonstrates the performance of Volkswagen's production technology.



Mission Efficiency sets new records in terms of efficiency and aerodynamics

Record number one: The vehicle achieves a C_d value of 0.158: a new record for road-approved cars. Record number two: consumption of 6.48 kWh/100 km during a so-called "ideal trip", during which the speed (in this case 68 km/h) remains constant, there are no uphill slopes and peripheral consumers such as the air conditioning system are deactivated. Record number three: Thanks to its aerodynamics and a highly efficient electric drive from the ID. Polo, the Mission Efficiency is also the most economical near-production electric car in its class.

On an officially documented consumption test drive over a distance of 1,278.36 km from Volkswagen's German Development Centre in Wolfsburg via Poznań (Poland) and Olmütz (Czech Republic) to the Austrian capital Vienna, the Mission Efficiency achieved real consumption of 7.51 kWh/100 km including charging losses (6.89 kWh/100 km without charging losses). The route was completed with an average speed of 67.72 km/h; the top speed was 138 km/h. The 54.9 kWh battery⁵ (net) was only charged once during the journey. On arrival in Vienna, it had a remaining range of 164.0 km.

Based on series production technology. Thomas Schäfer, CEO of the Volkswagen brand, Head of the Brand Group Core and member of the Group Board of Management: "Mission Efficiency is the ideal way to demonstrate what distinguishes Volkswagen in the electric age: technology for the masses – not just for the few. Rather than using specialist technology, the vehicle set its three world records using affordable production technology from the ID. Polo and ID. Cross, based on the MEB+ platform with front-wheel drive. This shows how much potential efficiency we can add to the

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latest generation of our electric cars. Developed in Wolfsburg and built by Kai Grünitz and his team, the Mission Efficiency is a symbol of German engineering expertise with clear customer benefits."

Efficient standard drive from the ID. Polo. Two of the features adopted from series production are the 99 kW (135 PS)⁶ electric motor and the high-voltage battery. Kai Grünitz, Board Member Technical Development, Volkswagen Brand and Brand Group Core: "The new Mission Efficiency impressively demonstrates the incredible potential of the drive system in our new ID. Polo. Developed for all models based on MEB+ with front-wheel drive, the system is extremely light, very efficient and thus the ideal drive system for our record-breaking vehicle. The Wolfsburg team behind the Mission Efficiency has achieved something outstanding: on the one hand, the crew has proved that Volkswagen is one of the world's leading manufacturers in the area of aerodynamics. On the other hand, they are also showing that you can build the most efficient car in the world using affordable, large-scale production technology."

Aerodynamics-inspired form that reduces consumption. The ground-breaking low air resistance, achieved as a result of the drag coefficient ($C_d = 0.158$) and small frontal area ($A = 2.08 \text{ m}^2$), is the Mission Efficiency's central aerodynamic feature. It consists of a flow-optimised teardrop shape, small frontal area, active cooling air flaps, clad rear wheels and a fully clad underbody. The doors to the Mission Efficiency feature frameless windows, while the door handles have been integrated into the outer skin for optimum air flow. The overall concept pays off, especially at higher speeds: from speeds above 80 km/h, consumption is more than 30 per cent lower than in the standard version of the ID. Polo. At 140 km/h, the Mission Efficiency requires about as much energy as the ID. Polo at 100 km/h.

Andreas Mindt, Chief Designer at Volkswagen: "With its front end, the Mission Efficiency slots into our new family of electric vehicles, which also includes the ID. Polo and ID. Cross. The shape of the body itself is committed fully to functionality and thus the laws of aerodynamics. This has resulted in a state-of-the-art, efficient sports car in which the DNA of the legendary Volkswagen XL1 shines through." Presented in 2013 and fitted with a plug-in hybrid drive, the XL1 was the most economical production car in the world at that time.

At 4,775 mm long and 1,392 mm tall, the Mission Efficiency coupé offers 2+2 seats and 481 litres of capacity in the luggage compartment. Additional stowage compartments under the rear seats and in the sides of the body create space for everyday items and the charging cable. While the front interior can be used without restriction, the two rear seats are intended for passengers up to a height of approximately 1.60 m. The prototype was designed so that it could theoretically be used by a young family of four. The body combines components of the ID. Polo with a self-supporting aluminium structure and components made of a high-strength carbon fibre-reinforced polymer (CFRP) and aramid composite.

Advanced braking technology. At the front, the Mission Efficiency uses the MacPherson front axle and the hydraulic brake from the ID. Polo. For the first time, an electromechanical brake is being used at the rear. This reduces friction losses, saves on



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lines and brake fluid and supports variable brake force distribution. This not only further improves recuperation, but also increases stability while cornering. The new brake was developed by Volkswagen together with the international tech company AUMOVIO, which also supplies the brake system for the ID. Polo. The prototype has received EU road approval and meets the corresponding safety, strength and crash requirements.

Rolling resistance as another decisive success factor. The type of wheel and tyre integration is also particularly interesting. This is because the wheels are responsible for 25 to 30 per cent of the aerodynamic resistance. Consequently, a high amount of effort was required to develop new solutions. In the case of the front wheels, for example, the wheel arch was placed closely around the radius of the tyre to reduce turbulence in the wheel housing. In addition, new and patented rim deflectors are used on the inside of all wheels. They prevent air from entering the rims and causing turbulence there. On the visible outside of the wheels, the flat, flow-optimised design of the hubcaps contributes to the excellent aerodynamics.

The optimal tyre is another point of leverage for reducing fuel consumption and increasing the vehicle's range. Working closely with Continental, Volkswagen developed a concept tyre based on the EcoContact 7 series tyre, which with a rolling resistance of 4.9 kilogrammes per tonne is about 25 per cent below the threshold for the EU's best tyre label class A. Essentially, the sidewall and the tread compound have been optimised to minimise energy losses during rolling.

Solar power and reduced interior. A photovoltaic system with a power output of 370 W is integrated into the glass roof and boot lid, and supplies power to the on-board electrical system's consumers. Depending on the season, region and weather, it can increase the real range by up to 30 kilometres per day. In the interior, lightweight panelling, a mobile Bluetooth box as a replacement for the omitted speaker system and the "Bring your own device" concept reduce the weight: a smartphone or tablet takes the place of the infotainment system display.

1. Category "Near-production four-seater electric vehicle suitable for everyday use" of the Record Institute for Germany (RID).
2. Concept Car. Not for sale.
3. Energy consumption without charging losses.
4. ID. Cross – combined power consumption 16.9-14.3 kWh/100 km; combined CO₂-emissions 0 g/km; CO₂-class: A.
5. Software adaptation of the usable battery energy from 52.0 to 54.9 kWh (net). Since the longevity of the battery is to be guaranteed in series production, the maximum energy content is deliberately not used. These conditions do not apply to a record vehicle with limited deployments
6. ID. Polo (99 KW) – combined power consumption 14.9-13.6 kWh/100 km; combined CO₂ emissions 0 g/km; CO₂ class: A



The Volkswagen Passenger Cars brand has a global presence and produces vehicles at 28 locations in twelve countries. In 2025, Volkswagen delivered over 4.7 million vehicles. These include bestsellers such as the Polo, T-Roc, T-Cross, Golf, Tiguan and Passat as well as the successful all-electric models from the ID. family. Last year, the company handed over around 382,000 all-electric vehicles to customers worldwide. Volkswagen currently employs around 170,000 people worldwide. With its "BOOST 2030" strategy, Volkswagen is advancing its evolution into the most desirable brand for sustainable mobility.
