

# The e-up! - taken to a new level International vehicle presentation

Valencia, November 2019

Note: This press release as well as all images of and films about the e-up! can be found online at www.volkswagennewsroom.com

All equipment specifications apply to the German market.

<sup>1)</sup> e-up!: power consumption, kWh / 100 km: 12.9-12..7 (combined); CO<sub>2</sub> emissions, g/km: 0; efficiency class: A+
2) ID.3: The vehicle is not yet available for sale in Europe.
3) Concept car.



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<u>In brief</u>

### Greater range at a lower price: The e-up! now keeps going for up to 260 km

#### The headlines

- Electric vehicles for all customers: the revamped e-up! is the entry-level model to the Volkswagen e-mobility world
- Lower price: base price in Germany just €21,975 minus subsidies. Leasing, financing, maintenance and energy costs are also very low
- Up to 260 km practical range: the revamped e-up! can take on even longer distances
- **New lithium-ion battery**: new battery stores 32.3 kWh of usable energy and optionally allows fast charging by direct current
- **Powerful electric motor:** synchronous motor provides 61 kW (83 PS) peak power and 212 Nm starting torque
- High-speed road performance: 0-100 km/h in 11.9 seconds, fast sprints, top speed of 130 km/h
- **Driving and recuperating options to suit:** three driving profiles and five energy recovery levels available
- Agile handling and good level of safety: battery installation position between the axles ensures a low centre of gravity. Lane Assist system on board as standard
- Equipped to appeal: Climatronic, Composition Phone radio system and new Lane Assist lane keeping assistant included as standard
- **Clever apps:** maps + more smartphone dock with a new app series, as well as the We Connect app with e-Remote
- **Striking e-up! style version:** roof in contrasting colour, alloy wheels and blue background lighting for the interior
- Three equipment packs: winter pack, Driver's assistance pack and comfort pack, plus individual options such as multifunction steering wheel

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#### The highlights of the revamped e-up!

Wolfsburg / Valencia, November 2019. Increased range, lower price: Volkswagen presents the next-level e-up! Its new battery means this electrically powered compact vehicle is capable of up to 260 km of range in real driving conditions. The revamped e-up! will arrive at dealerships in Europe in winter, with the price in Germany at just €21,975, from which subsidies are still to be subtracted. Leasing and financing rates, as well as running costs are also extremely low, making the brand's smallest electric vehicle an attractive entry model to the world of Volkswagen e-mobility.

**32.3 kWh usable energy capacity – the new battery.** The box looks the same, but what's inside is completely new, with the battery cells in the revamped e-up! offering a much higher energy density than the previous model. Its gross capacity has been almost doubled, from 18.7 to 36.8 kWh (corresponds to 32.3 kWh usable energy). With average energy consumption of only 12.9 – 12.7 kWh/100 km, the e-up! achieves a range of up to 260 km from one battery charge, in real driving situations. When the battery is empty, it can be recharged to 80% in just an hour via direct current; the CCS charging connection needed for this is available as an option. Using alternating current, achieving 80% charge at a 7.2 kW socket takes just over four hours.

An agile sprinter that gets up to 100 km/h in 11.9 seconds. The e-up! is compact but fully formed, with space for four people – and plenty of fun for the driver. At its peak, the electric motor delivers 61 kW (83 PS), and from a standing start it sends a powerful 212 Nm of torque to the front axle via a single-speed gearbox. The sprint from 0 to 100 km/h takes 11.9 seconds; acceleration stops at 130 km/h. The driver can choose between three driving profiles and five energy recovery levels. The large lithium-ion battery is installed beneath the vehicle floor, ensuring a low centre of gravity and agile handling. With six airbags and the new Lane Assist lane



keeping assistant, even the smallest Volkswagen features a high level of safety as standard.

Access to electric mobility – at an affordable price. With the e-up!, Volkswagen offers its customers an entry-level model for electric mobility at a competitive price. In Germany the compact vehicle costs just  $\in$ 21,975, minus  $\in$ 4,380 in subsidies from Volkswagen and the state. Those driving the e-up! as a company car benefit from an additional advantage, as the tax payable is just 0.5% of the list price. Running costs are also low: the cost of the power needed to travel 100 km is less than  $\in$ 4 in Germany (as of autumn 2019).

**Apps + more – the equipment**. An attractive equipment is included as standard, for instance the Composition Phone radio system with Bluetooth interface and DAB+, not to mention the smartphone dock with the new maps + more app offering many navigation and multimedia functions. Via the We Connect app with e-Remote, e-up! customers can remotely start, stop and program charging and air conditioning while the car is parked. The Climatronic air conditioning system and new Lane Assist lane keeping assistance system complete the equipment list. For a striking look, choose the e-up! style with black or white roof, tinted glass in the rear, alloy wheels and blue background lighting for the vehicle interior.

Volkswagen has also put together three equipment packs themed around driver assistance, winter and comfort. They include features such as the cruise control system and rear view camera system, heating for seats and windscreens, as well as automatic headlights and a second remote control key. The offering is completed with individually available options such as the multifunction steering wheel with leather trim, or electronic engine sound for city traffic.

**The electric offensive continues – Volkswagen powers forward.** At its market launch in 2013, the e-up! was Volkswagen's first all-electric model, and this upgrade represents part of the brand's ongoing electric offensive:



Volkswagen intends to launch more than 50 all-electric models on the market by 2025, with the Group aiming to sell up to three million electric vehicles per year.

The new ID.3<sup>2</sup> – which was presented at the IAA in Frankfurt in September 2019 and has been rolling off the production line in Zwickau since the beginning of November – plays a leading role in the electric offensive. It will be shortly followed by the SUV ID.CROZZ<sup>3</sup>; then the successor to the camper van, the ID.BUZZ<sup>3</sup>; and the ID.VIZZION<sup>3</sup> saloon. By the end of 2022 alone, the Volkswagen Group will be investing more than €30 billion in electric mobility.

#### Range of up to 260 km

The battery, the drive system and the charging options

Seven commuter journeys in a row. With up to 260 km of range in real driving situations, the upgraded e-up! is an all-rounder for short and medium distances. The compact city specialist can take on the 35 kilometres that the average commuter in Germany travels to and from work every day, seven times in a row without recharging. What's more, it can even manage the journey from Frankfurt to Düsseldorf without stopping.

The new lithium-ion battery is crucial to this long range: it offers 32.3 kWh of usable energy capacity, which corresponds to 36.8 kWh gross – almost twice as much as its predecessor (18.7 kWh gross). The developers of the e-up! have changed the battery cell concept, moving from prismatic battery cells to pouch battery cells that have a flexible outer shell made of aluminium-coated plastic. The lithium-ion technology used guarantees high energy density and a long service life; the cells can deliver and receive current continuously and reproducibly across wide variations in temperature and charge status. This increased energy density and spatial



improvements mean that the volume of the battery has even been reduced by around 20 litres.

The new battery system integrates 168 pouch battery cells, collected into modules of twelve. The 14 modules are formed into two blocks: a flat long one under the front seats and a short high one under the rear bench seat. Including all controllers, fuses and connections, the complete system weighs 248 kg – just 15 kg more than its predecessor. The battery guarantee provided by Volkswagen extends over eight years or 160,000 km.

**Compact with high efficiency.** The other components in the high-voltage drive train remain virtually unchanged. Power and control electronics convert the direct current of the battery into three-phase current for the electric motor, and perform the opposite function during brake energy recuperation. The PSM electric motor (permanently excited synchronous motor) is compact and achieves a high degree of efficiency. It delivers 40 kW of continuous power and 61 kW of peak power (54/83 PS), and from stationary it delivers full starting torque of 212 Nm. A single-speed gearbox transmits forces to the front axle; it is produced in a Volkswagen component factory, just as the electric motor and the high-voltage battery are.

Three driving strategies to choose from. The upgraded e-up! consumes just 12.9 – 12.7 kWh of energy per 100 km. In Germany, where a kilowatt hour has an average cost of 30.5 cents (as of autumn 2019), that means less than  $\notin$ 4 for 100 km of travel. This high efficiency is achieved by means of several factors: a low kerb weight of 1,160 kg (without driver), optimised rolling resistance tyres, and great aerodynamics. The drag coefficient is only 0.31 – low for such a compact vehicle.

In the revamped e-up! drivers can choose between three driving profiles: standard mode, and the Eco and Eco+ programmes, which are activated via buttons. In Eco mode, drive management reduces engine output to 50 kW



(68 PS) and torque to 167 Nm; maximum speed is reduced to 115 km/h, and air conditioning is switched off. Eco+ mode makes the e-up! even more economical in use, limiting output to 40 kW (54 PS) of power, 133 Nm of torque and a top speed of 90 km/h.

Driving characteristics can be further influenced in terms of brake energy recuperation performed by the electric motor. The driver can choose from five modes using the selector lever: D, D1, D2, D3 and B. Depending on the mode selected, brake energy recuperation replaces conventional braking in many situations. In D mode the vehicle continues to roll freely when the driver releases the right pedal. B mode is at the other end of the scale, displaying the reverse behaviour: in this mode the revamped e-up! recovers maximum energy in overrun – it can be as much as 40 kW at 100 km/h.

In modes from D1 to B, many light to medium braking operations are performed solely by the electric motor. The hydraulic wheel brakes, which are controlled by an electromechanical brake booster (e-BKV), are only activated when the driver presses hard on the brake pedal – with a deceleration of about 0.3 g or more. The transition between electric and conventional braking – known as blending – is harmonious, and the brake pedal can always be applied in precise increments.

The standard multifunction display in the instrument cluster displays all the information that is important for electric driving, including the selected driving modes and energy recovery levels, fuel consumption values, range and active charging processes.

**Driving pleasure meets safety.** The revamped e-up! is an agile vehicle. In standard mode, it accelerates from a standstill to 100 km/h in 11.9 seconds – half a second faster than its predecessor. Acceleration stops at 130 km/h in order to preserve the range. The lithium-ion battery is ideally positioned under the vehicle floor, where it ensures balanced axle-load distribution and a low centre of gravity – both promoting handling that is



nimble and, at the same time, safe. The Electronic Stability Control (ESC) integrates Hill Start Assist.

Passive safety is also a high priority. The battery system integrates a crossbeam that reinforces the outer shell and protects passengers in the event of a side collision. Airbags for the driver and front passenger, along with two curtain airbags and side airbags are fitted as standard, as is the new Lane Assist lane keeping system. At speeds over 65 km/h, this assistance system can detect whether the vehicle is unintentionally departing from its lane, in which event it intervenes with corrective steering actions.

A charging time of just one hour using direct current. The revamped e-up! is charged using alternating current. When charging at a 7.2 kW power connection, an empty lithium-ion battery returns to 80% SOC (state of charge) in just over four hours. The type 2 charging cable required for this is available as standard. Volkswagen subsidiary company Elli (Electric Life) is offering new ID.Charger wall boxes for home charging, with even the cheapest of these delivers 7.2 kW of power. Volkswagen Naturstrom<sup>®</sup> is also available from Elli. This is power obtained 100% from renewable sources – at present mainly hydropower plants in Germany and neighbouring countries, such as Austria and Switzerland. When it is used to power the e-up! the vehicle is not only locally emissions-free, but also globally.

The We Connect app with e-Remote provides even more convenience when charging. Owners of the revamped e-up! can use the app to program their desired departure times and thereby ensure that they always set out with a full battery. It is also easy to control air conditioning – the heating and cooling of the vehicle interior – remotely from the settee while the vehicle is parked. This function is active during the charging process so that no electrical range is lost. The We Connect app also allows remote access to the vehicle status (parking position, lights and similar) and driving data.



Upon request, the upgraded e-up! includes a CCS charging connection (Combined Charging System) in the charging socket flap above the right rear wheel, enabling it to be recharged with direct current at public charging stations. With the 40 kW of power supplied at these stations, an empty battery can be 80% recharged in 60 minutes.

Owners of the revamped e-up! in Germany can use the Charge&Fuel card and app, and in future the We Charge app too, making it possible to charge the vehicle at numerous charging stations and to be billed online for usage. The Volkswagen Group and its partners will install around 36,000 charging stations throughout Europe by 2025 – 11,000 of which will be installed by the Volkswagen brand alone. These will mainly be found at Volkswagen sites. The Group is also a driving force behind the IONITY fast charging network, which will build 400 charging parks along Europe's major motorways by the end of next year.

#### **Economical and attractive**

Basic price and equipment

**Electric mobility needs to become affordable.** With this principle in mind, Volkswagen is offering the revamped e-up! on the European markets at very attractive prices. In Germany, where advance sales began in September 2019, the compact electric vehicle costs just  $\leq$ 21,975, with two subsidies reducing the price even further: Volkswagen covers  $\leq$ 2,380 of the costs and the German government a further  $\leq$ 2,000 (as of October 2019). For employees who use an e-up! as a company vehicle, only have to pay tax at 0.5% of the list price rather than 1% – a further financial benefit that almost constitutes a salary increase. With its low price, attractive leasing and financing rates, and low running costs, a brand-new e-up! may even be of interest to customers who are considering a used vehicle.



**Compact dimensions, great equipment.** Even in the basic version, the 3.6metre-short e-up! is a fully equipped vehicle, complete with four doors as standard. Together with the e-up! lettering, blue trim strips at the front and rear indicate the electric drive system. The front of the car sports the new Volkswagen logo in a 2D look, with C-shaped LED daytime running lights – another identifying feature of Volkswagen's electric vehicles. Honeycomb grilles adorn the air intakes. The door handles and the exterior mirror housings are painted in the car body colour, with three plain and three metallic shades to choose from as well as a pearlescent finish; the colours Costa Azul Metallic and Red are new.

**Space and comfort.** The Climatronic air conditioning system, central locking system and new Lane Assist lane keeping system are fitted as standard on the revamped e-up! The same is true for the six airbags – two front, two curtain, and two side airbags. All four seats have occupancy detection and the front seats have integrated head restraints. The seat covers are in Fusion design, and the floor mats are edged with decorative stitching.

The height of the driver seat can be adjusted, and the backrests of the rear bench seat can be folded down in a 40:60 ratio. Depending on the rear seat position, the luggage compartment can hold between 251 and 959 litres of luggage. The variable luggage compartment floor (standard in the German market) snaps into place at both levels, with only a simple hand movement needed to adjust it. A net and a bag hook on the glove box keep shopping bags in place.

The Composition Phone radio system with six speakers, Bluetooth interface and DAB+, as well as the maps + more smartphone docking station are fitted as standard. The maps + more app transforms the customer's Android or iOS smartphone into a versatile tool that is intelligently connected to the car and the internet. It features a redesigned user interface, and the dashboard can be personalised using widgets. The



user controls functions using buttons and controllers or, in many cases, handwriting input.

With the maps + more app, both drivers and passengers in the e-up! can listen to music from the radio or a streaming service, talk on the phone, and navigate offline using 2D or 3D maps, including voice input and speed warning. The app shows driving data such as the energy recovery balance, battery status and range. It also helps when looking for charging stations and enables up to three charging and air conditioning timers to be programmed. The integrated Think Blue.Trainer helps the driver maintain an economical driving style.

More striking with style. The revamped version of the e-up! style, which starts at €23,000 in Germany, looks even better. The roof and exterior mirrors are painted in contrasting black or white, while the sill panels are in the main colour of the vehicle. The front features aluminium sill panel mouldings with e-up! lettering, the rear side windows and the rear window are tinted. The e-up! style comes with 15-inch alloy wheels in Blade design fitted as standard (optional in the basic version). 16-inch wheels in Upsilon design are available as optional equipment. The striking look of the e-up! style continues in the vehicle interior, with seat covers in the new Cross design, featuring a shark skin design for the upper area of the dash panel and blue background lighting.

Three equipment packs to choose from. A choice of three equipment packs makes it possible to further refine your e-up! The winter pack includes heating for the front seats and windscreen, as well as heating and electrical adjustment for the exterior mirrors. The driver assistance pack includes an acoustic Park Distance Control, a cruise control system and the Rear View camera system. The comfort pack integrates a height-adjustable front passenger seat, a rain sensor, automatic headlights with Leaving Home and Coming Home functions, and a second remote control key.



Individual options round off the option list. These include the multifunction steering wheel with leather trim, to match the handbrake handle and selector lever knob. At speeds between 5 and 22 km/h, especially in city traffic, a speaker emits a synthetic electronic engine sound to alert pedestrians to the vehicle.

#### Electrically powered vehicles for all customers

#### Volkswagen's strategy

**Electric vehicles for everyone.** The Volkswagen electric offensive is gaining massive momentum. It is built upon the modular electric drive matrix (MEB), which will be the foundation for numerous new models with very different wheelbases and concepts. The new ID.3<sup>2</sup> is the pioneer here. Its production started at the beginning of November, and the SUV ID.CROZZ<sup>3</sup>, ID.BUZZ<sup>3</sup> camper van successor and ID.VIZZION<sup>3</sup> saloon are to follow.

As soon as 2025, the company is aiming to produce up to 3 million allelectric vehicles every year; by then there will be more than 50 electric vehicles on the market, of which more than 20 will be from the Volkswagen brand. By the end of 2022, more than  $\notin$ 30 billion will have been invested, and the joint ventures in China will be investing a further  $\notin$ 15 billion over the next few years.

The e-up!, which has been on the market since 2013, does not yet use the MEB platform. However, following its upgrade in particular, it fits perfectly into the Group's strategy of making electric vehicles attractive and affordable for as many people as possible.



#### **Technical data**

e-up!	
Engine, gearbox	
Engine type/valves per cylinder	Permanently excited synchronous motor (PSM)
Maximum power	61 kW (83 PS) from 2,800 to 12,000 rpm
Maximum torque	212 Nm up to 2,750 rpm
Emissions class	-
Gearbox variant	1-speed automatic
Weights	
Minimum kerb weight	1,160 kg
Maximum gross vehicle weight rating	1,530 kg
Minimum/maximum payload	327 kg / 370 kg
Maximum front/rear gross axle weight rating	790 kg / 770 kg
Permissible drawbar load / roof load	- / 50 kg
Fuel consumption	
Electricity consumption	12.9-12.7 kWh/100 km
Electrical charging system	
Battery type	Lithium-ion
Nominal energy capacity	32.3 kWh
Number of battery cells/modules	168 / 14
Nominal voltage	307 V
AC charging time (2,3 kW) up to 100% SOC	16 h, 12 min
DC charging time (50 kW) up to 80% SOC	1 h
Range	
In practical conditions	180 km - 260 km
Driving performance	
0-100 km/h	11.9 s
Top speed	130 km/h



Equipment lines	
Available as	e-up!, e-up! style
Exterior dimensions	
Length	3,600 mm
Width with/without exterior mirror	1,645 mm / 1,910 mm
Maximum height	1,492 mm
Wheelbase	2,417 mm
Minimum/maximum track, front	1,412 mm / 1,433 mm
Minimum/maximum track, rear	1,408 mm / 1,428 mm
Height of open boot lid to ground	1,994 mm
Interior dimensions	
Headroom (front seats)	993 mm
Vehicle interior width (front seats)	1,369 mm
Headroom (rear seats)	947 mm
Vehicle interior width (rear seats)	1,388 mm
Luggage compartment	
Length, rear bench seat, open/folded	632 mm / 1,252 mm
Width between wheel housings	978 mm
Luggage compartment volume., rear	251   / 959
bench seat open/folded	
Further data	
Turning circle	approx. 9.8 m