High-performance batteries with silicon anodes and Porsche fast-charging stations

16/03/2021 Porsche will continue to expand its battery expertise. The company made this announcement yesterday at the first Volkswagen Power Day.

Porsche is researching high-performance batteries with silicon instead of graphite anodes in order to achieve an even higher energy density and better fast-charging capability. The new batteries will be produced in Europe and initially used in limited-production, high-performance vehicles and in customer motorsport. Porsche is also planning its own fast-charging stations along the most important European major highways and motorways. These will offer Porsche customers a high-quality, brand-appropriate charging experience while complementing the existing Ionity network.

Innovative high-performance batteries with silicon anodes

Porsche is systematically building up its expertise in the field of cell chemistry for high-performance batteries. In order to meet the extreme demands placed on cell systems in high-performance applications, it is necessary to change the cell chemistry from graphite to silicon anodes. New electrolytes and additives allow operation even at temperatures above 75 degrees Celsius. Such innovative high-performance batteries based on silicon will be used initially in limited-production, high-performance vehicles and in customer motorsport. However, volume and power cells will also benefit from the technological experience gained. Porsche will also ensure that there is a completely European production chain for high-performance batteries.

"The battery cell is the combustion chamber of tomorrow," says Oliver Blume, Chairman of the Executive Board of Porsche AG. "Our electrified high-performance sports and racing cars place the highest demands on battery technology. To meet these demands, Porsche needs special high-performance cells. Silicon has big potential." This is because silicon enables a higher energy density and improves energy recovery as well as fast-charging capability. Porsche has already taken on a pioneering technological role in the development of 800-volt technology, first in the 919 Le Mans racing car and now in the Taycan electric sports car.

Plans for Porsche fast-charging stations with lounge areas

Porsche is planning its own fast-charging stations along the most important European major highways and motorways. These will offer customers a high-quality, brand-appropriate charging experience while complementing the Ionity network. A unique design will showcase the special character of the Porsche

fast-charging stations to the outside world.

"An important prerequisite for electromobility is fast and convenient charging," says Blume. "That is why we are currently working on the details of a concept for our own fast-charging stations. We will select attractive locations for these in order to offer our customers the most comfortable and fastest long-distance travel experience possible." Each station will have between six and 12 charging points with a charging capacity of 350 kW and more. The charging process will be convenient and there will be a lounge area with innovative self-service facilities. Access will be controlled via smartphone

135,000 charging points of the Porsche Charging Service

The Porsche Charging Service provides worldwide access to charging points from various providers. Central billing is handled by Porsche. Currently, over 135,000 charging points in 20 countries are connected in Europe.

The Porsche dealer network is also being comprehensively equipped with 350 kW fast-charging stations and more than 300 partners are already participating. Another highlight is the exclusive Porsche Destination Charging programme. In this, drivers of a Taycan or a plug-in hybrid model can charge their Porsche free of charge at what is currently 1,800 AC charging points in over 50 countries.

Consumption data

Taycan Turbo S Cross Turismo (Predecessor model)

Taycan Turbo S (Predecessor model)

*Further information on the official fuel consumption and the official specific CO_2 emissions of new passenger cars can be found in the "Leitfaden über den Kraftstoffverbrauch, die CO_2-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Fuel Consumption, CO_2Emissions and Electricity Consumption Guide for New Passenger Cars), which is available free of charge at all sales outlets and from DAT (Deutsche Automobil Treuhand GmbH, Helmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, www.dat.de).

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