

Press Release

Small series iX5 Hydrogen to be launched towards the end of the year

Hydrogen consumption measurement: BMW relies on DEKRA expertise

- Test bench at Technology Center designed, among others, for H₂ vehicles
- Explosion protection concept with leak sensor and warning system
- Further DEKRA facilities prepared for fuel cell drives

DEKRA e.V.
Corporate
Communications
Handwerkstraße 15
D-70565 Stuttgart

www.dekra.com/en/press

Ahead of the launch of the demonstration fleet of iX5 Hydrogen, BMW is relying on the expertise of the powertrain and emissions laboratory at the DEKRA Technology Center. A prototype has recently been sent to the lab at the DEKRA Lausitzring in Brandenburg, Germany, for consumption measurements. The small series with fuel cell drive is to be launched towards the end of this year.

During several cycles on the DEKRA roller test bench, the vehicle's hydrogen consumption values in the WLTP (Worldwide harmonized Light vehicles Test Procedure) were measured using the gravimetric method. This independent measurement, verifying and in this case confirming the manufacturer's data, is one of the requirements for the regulatory approval of the small series.

"When we expanded the laboratory a few years ago, we already geared our test bench to the coming requirements of electromobility – including fuel cell drives and hydrogen technology," says Erik Pellmann, Head of Powertrain and Emissions at the DEKRA Technology Center. "Among other things, this involves an effective explosion prevention concept."

For example, the installed sensor system detects if hydrogen should leak. The system then warns the people involved, automatically increases the air exchange with outside air via an explosion-proof blower and opens the rolling shutter gates to the outside to ensure maximum air exchange. "This is relevant because hydrogen can cause explosions at concentrations as low as four percent in the air if ignition sources are present," Pellmann said.

Hydrogen-powered vehicles are basically just as safe as gasoline- or diesel-powered models. "Normally, hydrogen leakage does not occur; the in-vehicle sensor system also monitors the system," Pellmann explains. "When we use the gravimetric measurement method on the test bench, the vehicle is not refueled normally but runs on hydrogen from an external container. This is weighed on a high-precision scale before and after the test, allowing the actual consumption in

Date Stuttgart / Klettwitz, October 25, 2022 / No. 123-A
Contact Wolfgang Sigloch
Phone +49.711.7861-2386
Fax +49.711.7861-742386
E-Mail wolfgang.sigloch@dekra.com

the measurement cycle to be calculated. Because of this additional test bench periphery, the issue of explosion prevention is especially important."

Other DEKRA facilities whose services play an important role in the area of homologation and type approval are also prepared for testing hydrogen-powered vehicles. This applies, for example, to the Complete Vehicle Department at the DEKRA Technology Center and to the DEKRA Crash Test Center in Neumünster (Schleswig-Holstein, Germany).

About DEKRA

DEKRA has been active in the field of safety for almost 100 years. Founded in 1925 in Berlin as Deutscher Kraftfahrzeug-Überwachungs-Verein e.V., it is today one of the world's leading expert organizations. DEKRA SE is a subsidiary of DEKRA e.V. and manages the Group's operating business. In 2021, DEKRA generated sales totaling more than EUR 3.5 billion. The company currently employs almost 48,000 people in approximately 60 countries on all continents. With qualified and independent expert services, they work for safety on the road, at work and at home. These services range from vehicle inspection and expert appraisals to claims services, industrial and building inspections, safety consultancy, testing and certification of products and systems, as well as training courses and temporary work. The vision for the company's 100th birthday in 2025 is that DEKRA will be the global partner for a safe, secure and sustainable world. With a platinum rating from EcoVadis, DEKRA is now in the top one percent of sustainable businesses ranked.