

Ballard Power Systems will preview new heavy-duty fuel cell concept engine at IAA Transportation 2022

The new fuel cell engine will also feature in the world premiere of Quantron's 44t fuel cell truck

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VANCOUVER, CANADA – Leading fuel cell supplier, Ballard Power Systems, will showcase its latest fuel cell solutions for medium- and heavy-duty trucks at IAA Transportation 2022 in Hanover, Germany from September 20-25. Ballard will display the FCmove™-HD+ fuel cell module for mid-sized commercial vehicles and offer a preview of the new FCmove™-XD concept engine for heavy-duty trucks at the company's exhibit in Hall 24, stand C24.

The new FCmove™-XD concept engine is also integrated in Quantron's new 44t fuel cell truck which will premiere at the event.

"IAA Transportation 2022 is an excellent opportunity for Ballard to demonstrate the significant progress we're making in the hard-to-abate heavy-duty transport segment," said Randy MacEwen, CEO, Ballard Power Systems. "Our collaborations with automotive leaders such as MAHLE and Quantron, as well as strategic partners including Forsee Power, Weichai and Linemar, accelerate our entry into the truck market and drives our ambition to have hydrogen-powered zero-emission trucks on the road in the next 18 months."

Designed to address the specific power and performance requirements of heavy-duty transport, Ballard's fuel cell products are the longest serving fuel cell solution available, powering more than 3,600 buses and trucks over more than 100 million kilometers globally.

Targeting the medium-duty segment of 19t and above, the 100kW FCmove™-HD+ fuel cell module has been designed to improve ease of vehicle integration. The module is 40% more compact, over 30% lighter and with half the component parts of previous generations. This results in an anticipated 40% improvement in total lifecycle cost while delivering leading operating performance, high efficiency and wide operational range.

Extending the FCmove™ range into the heavy-duty and long-haul truck segment, Ballard and MAHLE have joined forces to develop a new tailored fuel cell engine platform for the demanding requirements of the 19t and above segment, offering power outputs ranging from 180kW to 360kW.

Ballard's 120kW fuel cell module is the central building block of the first concept engine, while MAHLE is integrating balance-of-plant components, thermal management and power electronics, optimizing the performance of the complete fuel cell system. The program is a multi-year

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development where MAHLE and Ballard will continuously mature and refine the platform to ensure that fuel cells will be the lowest total cost of ownership (TCO) solution for heavy-duty trucks within ten years.

Also debuting at IAA Transportation 2022, Ballard's partner Quantron will unveil a new 44t truck integrating Ballard's FCmove™-XD concept engine – the first heavy-duty truck that is built with proven Ballard fuel cell capability.

As part of a Joint Development Agreement, the zero-emission fuel cell electric vehicle (FCEV) developed by Quantron will integrate Ballard fuel cell products for various truck applications in Europe and the U.S., including for last-mile delivery, tractor units for long-distance haulage, and refuse collection vehicles. Ballard will be the exclusive fuel cell supplier to Quantron for these truck platforms.

Quantron's FCEV truck will be available from the second half of 2023 onwards and offers a range of up to 700km, hydrogen storage capacity exceeding 50kg and battery capacity of 120kWh. Designed to deliver uncompromising reliability for everyday use, it includes a cabin for overnight accommodation for long-haul transport and the option to use ISO standard trailers.

About Ballard Power Systems

Ballard Power Systems' (NASDAQ: BLDP; TSX: BLDP) vision is to deliver fuel cell power for a sustainable planet. Ballard zero-emission PEM fuel cells are enabling electrification of mobility, including buses, commercial trucks, trains, marine vessels, and stationary power. To learn more about Ballard, please visit www.ballard.com.

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