News release

# Ballard to showcase 240kW configuration of scalable FCmove®-XD fuel cell engine at ACT Expo 2025

**Scalable from 120-360kW, the FCmove®-XD sets a new benchmark for power density and fuel cell performance for heavy-duty vehicles.**

**For Immediate Release**

**VANCOUVER, CANADA** – Ballard Power Systems (NASDAQ: BLDP; TSX: BLDP) will demonstrate the high-performance FCmove®-XD fuel cell engine, including the North American debut of its 240kW configuration, at the leading clean transportation event. Ballard is exhibiting in hall C, booth 4613 from April 28 – May 1, at the Anaheim Convention Center, California.

Building on nine generations of fuel cell development, the compact design of the new FCmove®-XD module delivers class-leading volumetric power density, with an open architecture design approach that also makes the fuel cell the smallest and lightest in its power range.

Ballard's FCmove®-XD fuel cell engine

"The heavy-duty truck market demands high performance and durability to support rigorous operational requirements, including high utilization, varying payloads, and

diverse operating conditions," said David Mucciacciaro, Senior Vice President and Chief Commercial Officer, Ballard. "One of the key advantages of the new FCmove®-XD is scalability based on modularity. We can offer customers efficient integration of 120kW, 240kW, and 360kW configurations dependent on truck class and duty cycle. For example, a 240kW setup – comprising two modules – fits efficiently within the engine compartment of a Class 8 heavy-duty truck, improving standardization, enhancing system redundancy, and streamlining integration for fleet operators."

**Class-leading power density and performance**

The FCmove®-XD features engine volumetric power density of 0.36 kW/L and gravimetric power density of 0.48 kW/kg. The core 120kW fuel cell engine integrates a DC/DC regulated output, enabling up to three modules to operate as one system with a single interface, delivering up to 360kW of zero-emission power.

With a design life of 30,000+ hours of operation – equivalent to one million miles in truck operation at typical duty cycles – the FCmove®-XD is engineered for class-leading durability and low total cost of ownership (TCO). It supports a driving range up to 800km, contingent on onboard hydrogen storage capacity.


The FCmove®-XD's scalable nature means a 240kW configuration can easily and conveniently be integrated into a Class 8 truck's engine compartment

**Key Advancements of the FCmove®-XD**

Enabled by an open architecture design and other new design advances, the powerful and compact FCmove®-XD module delivers several important performance improvements including:

- **120kW power output** from Ballard's latest high-performance single stack
- **33% reduction in total parts count**, significantly improving reliability and reducing costs
- **Ultra-high peak system efficiency (>60%)**, lowering fuel consumption and optimizing heat rejection
- **Wide operating temperature range** up to 95°C
- **Integrated power controller** incorporating DC/DC converter, air compressor inverter, and a power distribution unit, with proprietary software controls for enhanced engine efficiency
- **Rapid transient response** with an innovative hot stand-by mode enabling rapid power increases
- **50% reduction in assembly time**, improving manufacturability
- **Compliance** with applicable safety codes and standards

"Our focus remains firmly on maximizing the economic value proposition for heavy-duty fleet operators," concludes Mucciacciaro. "With the introduction of our ninth-generation fuel cell module, the FCmove®-XD is engineered for large-scale production and real-world deployment. It delivers a competitive capital expenditure (CAPEX) profile and optimized TCO, ensuring a commercially viable zero-emission solution for heavy-duty truck applications."

**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.

Media contacts:

**Jonna Christensen**
jonna.christensen@ballard.com

**Thomas Davies**
thomas.davies@ballard.com