

# Horizon to Deliver World-First 500hp PEM Fuel Cells for Heavy Vehicle Applications

*Horizon announce record-breaking fuel cell capable of delivering 500 horsepower, with power density exceeding 5kW/l and 5kW/kg*

SINGAPORE, SINGAPORE, November 1, 2019 /EINPresswire.com/ -- While busy installing volume production of their 150kW fuel cell stacks (VL-II) in heavy duty trucks, the [Horizon Fuel Cell](#) Group has released specifications for its next generation (VL-III) high power automotive fuel cells. Able to produce 500hp (370kW) with power density exceeding 5kW/L and 5kW/kg, the new fuel cells from Horizon comfortably provide the power needed to displace the majority of large diesel engines.

Volume production of Horizon VL-II fuel cells for buses and medium to heavy duty trucks commenced in 2019, serving customers around the world. Horizon has a number of heavy truck platforms running on these fuel cells, up to 42t in gross weight. Even though the Horizon 150kW module is the highest power automotive fuel cell being supplied today, heavy vehicle applications benefit from even higher power fuel cells, for optimal vehicle performance, reliability and efficiency.

Leveraging over 16 years of fuel cell materials and stack R&D, Horizon has entirely shifted the goalposts on fuel cell power output and power density in the last few years. The VL-III stacks and VLS-III complete powertrains are expected to start shipping from mid 2020. The first customers are expected to deploy the systems in long-haul heavy trucking applications, based on confidential discussions underway at Horizon.

This latest announcement from Horizon underscores the potential for fuel cells to go far beyond powering buses and passenger cars. Long-haul heavy trucks are a particularly enticing application for hydrogen transport, but one that has been difficult to validate given a shortage of suitable fuel cells to meet the market need. Horizon expects significant interest from logistics operators and major retailers who are seeking to reduce their carbon footprint with immediate effect.

There are also high-profile initiatives underway in many countries to reduce dependence on diesel powered heavy machinery used in port operations, mining and construction, as well as trains and ships. Electric propulsion in such applications is very challenging, as high power needs are often coupled with very high rates of utilization. Hydrogen is the key to unlocking the prize - elimination of fossil fuels in such equipment.



Fuel Cells to Dominate Heavy Vehicle Powertrains

Dr. Arthur Koschany, Chief Scientist of the Horizon group, leads the development of these cutting-edge fuel cell systems, and sees great potential in replacing heavy diesel equipment: "Having been involved with core fuel cell R&D for over 30 years, it's gratifying to see fuel cell systems becoming more competitive than diesel engines on performance and total cost, while eliminating pollution and carbon emissions. At Horizon, we aim to dramatically accelerate the adoption of this technology by continually innovating on system performance and removing all doubt that fuel cells have a vital role to play in the energy transition."

Horizon will begin accepting orders for the 300kW fuel cell powertrains in December 2019.

About Horizon:

Horizon is a fuel cell pioneer and global leader in fuel cell commercialization, having been engaged in fuel cell R&D since 2003. Horizon supplies a full range of fuel cell systems, from low power air-cooled fuel cells through to high power automotive systems, and containerized MW-scale fuel cell power plants. Horizon has deep IP in all core technologies of PEM fuel cells, from catalyst, membrane electrode, bipolar plates and stacks, to system control.

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