

Hyundai and Iveco have recently unveiled a new fuel cell city bus. Picture credit: Hyundai Motor Company



PLATINUM ADVANTAGE

Passenger transport and logistics operators are increasingly seeing the benefit of platinum-based hydrogen fuel cell powertrains

Fuel cell electric vehicles (FCEVs) are poised for rapid growth and expected to reach nearly 1.5 million units by 2030. Their comparatively lighter drivetrain – versus an equivalent battery electric vehicle – minimises the loss-in-load capacity to battery weight, while quick refuelling suits long-distance and high capacity-utilisation transportation. These advantages position FCEVs as a cost-effective green transportation solution, predominantly in commercial and heavy-duty sectors. Heavy-duty fuel cells can contain up to eight times more platinum than their diesel counterparts, and by 2030 FCEV demand for platinum is expected to equate to around a quarter of total automotive demand.

Hyundai Motor Company (Hyundai) has pioneered hydrogen technology for 25 years and is a global leader in fuel cell mobility, producing the XCIENT fuel cell truck. It has up to 150 XCIENT trucks deployed in operations with various partners across five countries, including Germany, Switzerland, Israel, South Korea and New Zealand, with plans to enter the US market.

Since early 2022 Hyundai has collaborated with commercial and speciality automaker Iveco Group (Iveco) in shared vehicle technology, joint sourcing and mutual supply. This has resulted in the recently unveiled a new hydrogen city bus, the Iveco E-WAY H2.

Developed by Iveco, the E-WAY H2 is a 12-metre-long low-floor city bus equipped with a 310-kW e-motor and a fuel cell system provided by Hyundai. The bus allows for both hydrogen refuelling and plug-in battery charging, a hybrid mid-power concept that not only optimises the way the vehicle is charged, but also helps the on-board battery pack and fuel cell system to achieve their highest efficiency and durability.

Meanwhile, IKEA Austria is turning to fuel cell trucks as part of its transformation to zero-emission delivery. Earlier this month it took delivery of five QUANTRON QLI FCEVs equipped with fuel cell systems developed by Ballard Power Systems.



IKEA Austria is to deploy fuel cell trucks as part of its logistics fleet. Picture credit: Quantron

Growing applications

What is more, new logistics applications for fuel cells are growing. Doosan Mobility Innovation (DMI), a subsidiary of South Korean conglomerate Doosan Corporation, designs and develops hydrogen fuel power systems. It is working with DroneUp, a leading autonomous drone delivery platform and drone services provider, on testing a new fuel cell-powered drone.

Retail giant Walmart has partnered with DroneUp, in which it is also an investor, to develop its drone

delivery network, which is now the largest in the US. With 36 hubs in seven states, in 2022 Walmart completed over 6,000 drone deliveries from ice cream to rotisserie chickens and paper towels.

DroneUp sees several benefits in using platinum-based fuel cell technology. For example, it greatly increases drone flight time to between two and five hours, depending on factors like payload weight and weather. In addition, carbon emissions are reduced to zero, with the only emissions being drops of water.

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