Toyota will be deploying 500 of its Mirai passenger FCEVs at Paris 2024. Picture credit: Toyota



PLATINUM FOR THE WIN

Next year's Olympic Games will showcase how platinum-based hydrogen technology can help achieve the goal of net zero

As the worldwide mobility partner of the International Olympic Committee and the International Paralympic Committee for Paris 2024, Toyota is looking to provide sustainable transport solutions for athletes, officials, volunteers, accredited media and spectators.

Overall, Toyota aims to reduce vehicle carbon emissions at the Paris 2024 Games by 50 per cent compared to those of previous Games, while ensuring much of the total Toyota 'Olympic' fleet will be produced in Europe, including 37 per cent in France, contributing to the vision of a 'locally-sourced' Olympic and Paralympic Games.

As part of its plans, Toyota will be deploying some 500 of its Mirai passenger fuel cell electric vehicles (FCEVs). In addition, it is planning to showcase up to ten different hydrogen mobility applications. These will range from buses and trucks to boats and forklifts – all demonstrating the potential of a hydrogen-powered society and resulting from Toyota's integration of its fuel cell technology with other partners.

Among the hydrogen applications to be displayed at Paris 2024 are two FCEV city buses, each able to accommodate an entire wheelchair team, having been converted specifically for the occasion, with accessibility and team spirit in mind.

Further demonstrating how platinum-based fuel cells can be used to power all modes of transport, Toyota is using its fuel cell technology to develop a light-duty FCEV truck for the mass market with its partners Isuzu, Hino and Commercial Japan Partnership Technologies Corporation.

Light-duty trucks are often used for distribution by supermarket chains and convenience stores. In addition to being equipped with refrigeration and freezing functions, they are required to drive long distances over extended hours to perform multiple delivery operations in one day.



Toyota is using its fuel cell technology to develop a light-duty FCEV truck. Picture credit: Toyota

They must also meet requirements such as fast refuelling. The use of hydrogen-fuelled fuel cell technology, which produces zero CO2 emissions while driving, is considered highly effective under such operating conditions.

Circular economy

Toyota is not alone in recognising the important role a sustainable, hydrogen-powered mobility ecosystem can play in the transition to net zero. Bosch's fuel-cell power module is now in volume production, and the company is focused on developing a circular economy model that will see the valuable raw materials in its fuel cells – especially platinum – recovered and recycled at the end of a fuel cell's useful life. Platinum acts as a

catalyst in a fuel cell, accelerating the reaction of hydrogen and oxygen, and Bosch believes that 95 per cent of the platinum in fuel cell stacks can be recovered.



Bosch's fuel-cell power module is now in volume production. Picture credit: Bosch

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