

HYDROGEN EXCAVATOR POWERS IN AT BAUMA EXHIBITION

Hyundai Construction Equipment will demonstrate to visitors at this year's Bauma, a working view of the future. The ground-breaking HW155H hydrogen fuel cell-powered wheeled excavator will be operating on the demonstration area throughout this year's exhibition, providing customers with a real opportunity to put the machine to the test. First seen as a static exhibit at the last Bauma in 2022, the HW155H will demonstrate to customers the role that hydrogen can play in the transition to carbon-free operation on construction sites across Europe.

The project to develop a fuel cell powertrain specifically for the HW155H, has been a cooperation between Hyundai Construction Equipment and Hyundai Motor Company. HMC has a range of alternative powertrain solutions available for the car and utility vehicle markets. Two fuel cells have been designed, creating 30kW and 50kW of power. The HW155H uses a combination, to provide 70-100kW of power, though the driveline would suit a range of machines, from excavators to fork lift trucks and emergency generators.

The 15-tonne is an ideal choice for hydrogen power. The hydrogen fuel cell uses a chemical reaction between the hydrogen, that is carried on board in tanks and oxygen in the atmosphere, to generate electricity. The only emission is water vapour. The machine uses the fuel cell to power an electric motor, that then drives the hydraulic system. The hydrogen storage on-board has the capacity to allow a full eight hours of operation, with refuelling taking between 10-20 minutes.

Hydrogen is an inherently safe fuel, with an auto-ignition temperature that is higher than petrol or diesel. As it is 14 times lighter than air, it also disperses harmlessly into the atmosphere. Hyundai has gone further however, developing a world-first, innovative low pressure hydrogen storage solution, that offers high density storage for extended operating autonomy.

This will make the use of hydrogen an acceptable solution for infrastructure, civil engineering and building projects across the world. Hyundai's high-density, solid state storage system will double the capacity of a conventional hydrogen tank, using a considerably lower filling pressure. This will optimise space within the machine, reduce fill times and improve safety on site.

The HW155H will meet the needs of a wide range of construction customers, delivering an operating speed and power similar to that of a conventional diesel-powered excavator, with all-day useability.

The construction industry is facing growing pressure to reduce its environmental impact and Hyundai Construction Equipment will demonstrate the feasibility and viability of hydrogen use within its machinery, paving the way to a more sustainable future. To make this possible, it has to include infrastructure and the Bauma demonstration will show a mobile refuelling solution, that would make the use of hydrogen on European construction sites in the near future a real possibility.

The HW155H hydrogen-powered wheeled excavator concept will be a stand-out star of the show in April and the HW155H is in the running for a place among the top three nominees for Bauma 2025's Innovation Awards, in the Climate Protection category.

Ends

To find out more about the Hyundai HW155H, visit www.hyundai-ce.eu



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