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Johnson Matthey officially opens first hydrogen internal combustion engine facility in Gothenburg

Johnson Matthey (JM) has officially opened its first hydrogen internal combustion engine (H_2ICE) facility, where cutting-edge emission control systems will be tested.

A global leader in sustainable technologies, JM has developed the new centre of excellence to strengthen its world-class heavy-duty vehicle testing capabilities.

H_2ICE uses zero carbon hydrogen fuel in tried-and-tested engine technology, presenting a viable path for decarbonising medium and heavy-duty transport, such as trucks and buses.

Announced back in July, the new testing area forms part of JM's existing site in Gothenburg, Sweden. The facility has been completed on time and on budget, representing a £2.5m investment over three years. The opening was performed by Damien Sotty, JM's R&D Director.

The investment has further expanded JM's H_2ICE testing capability, allowing us to test full engines for the first time. This supports the continued evolution of the global market and regulatory environment, while addressing the desire of JM's extensive customer base in the transport sector to seek cleaner mobility solutions.

Tauseef Salma, JM Chief Technology Officer in Clean Air, said: "This investment shows JM is backing H_2ICE as a ready-to-go technology that will enable mobility partners to meet their decarbonisation and climate goals.
"Our state-of-the-art Gothenburg facility positions JM as a world leader in sustainable technology solutions, transforming energy and reducing carbon emissions."

The new Gothenburg installation supports H_2ICE engines up to 600kW (800hp). It will test the performance of catalysts within the wider engine after-treatment and control systems, providing key insights into the development of hydrogen mobility solutions. Gothenburg is already home to JM's heavy and light duty diesel engine test cells.

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The H_2ICE investment follows on from JM's collaboration with Cummins, and technology partners PHINIA and Zircotec, who launched Project Brunel in November 2021. This partnership was successfully concluded in March 2025, delivering proof points towards significant improvements in H_2ICE engine performance and durability.

The new Gothenburg H_2ICE facility includes:

- An on-site hydrogen supply & storage area with compressor and intermediate storage tank
- Hydrogen supply and storage up to 500 bar
- Hydrogen flow meter and analyser, plus exhaust measuring instruments
- All appropriate control, sensing and safety systems

Tauseef Salma added: "For more than two centuries, JM has helped tackle some of the world's biggest challenges. We continue to do so today because it's in our DNA. The opening of this new testing facility shows our commitment to strategic partnerships to drive innovation, strengthening the potential of H_2ICE as a net zero pathway for commercial vehicles."

Johnson Matthey is a founding member of the Global Hydrogen Mobility Alliance, a coalition of more than 30 major companies across the automotive, energy and technology sectors, aiming to accelerate the deployment of hydrogen solutions in Europe's transport sector. The alliance – which includes companies such as BMW, Toyota, Hyundai, Air Liquide, and Linde – is urging EU policymakers to prioritise hydrogen mobility as a key component of their decarbonisation and industrial strategies.

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About Johnson Matthey:

Johnson Matthey is a global leader in sustainable technologies. For over 200 years we've used advanced metals chemistry to tackle the world's biggest challenges. Many of the world's leading energy, chemicals and automotive companies depend on our technology and expertise to decarbonise, reduce harmful emissions, and improve their sustainability. And now, as the world faces the challenges of climate change, energy supply and resource scarcity, we're actively providing solutions for our customers. Through inspiring science and continued innovation, we're catalysing the net zero transition for millions of people every day.

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