Press Release

Linde provides technology for UK's first public forecourt hydrogen refuelling station

Munich, 22 February 2017 – The technology company The Linde Group today announced its involvement in the launch of Shell's first hydrogen (H_2) refuelling station in the UK – and, specifically, the first H_2 refuelling station in the UK to be situated on a public forecourt. Linde has supplied the key, innovative H_2 compression and dispensing technologies, with the system being delivered by Linde's UK subsidiary, BOC. The refuelling station, which was officially opened today, is located at Cobham Services on London's orbital motorway, the M25, the UK's busiest refuelling station.

The H_2 refuelling station was supplied by ITM Power, with whom Linde collaborated closely to deliver the H_2 ionic compression and dispensing system.

"Linde and BOC are proud to supply the compression and dispensing system for the UK's first hydrogen refuelling station on a Shell forecourt, " said Nick Power, Market Development Manager, Clean Fuels, BOC. "Over the past several decades, we have played a pioneering role in the development of innovative H_2 technologies. Our advanced ionic compressor employed at Cobham Services will deliver significant benefits in terms of greater energy efficiency, reduced noise pollution and less maintenance."

Compressor units are the vital components of a modern H_2 refuelling station, as gaseous hydrogen is compressed to extremely high pressures of up to 900 bar. Linde's ground-breaking ionic compressor design replaces most of the functionality of conventional metal pistons with an ionic liquid (molten

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salts), eliminating the risk of the H_2 being contaminated by lubricant. It also reduces wear and tear, energy consumption and also the pump's footprint. Linde has designed compact compressors that are both scalable and standardised, making the system extremely flexible in order to accommodate small or large refuelling throughputs, depending on local demand.

This proprietary solution was first deployed in 2006. Linde continues to evolve this technology and it can now be found in the majority of the 100-plus H_2 refuelling stations it has equipped globally.

About The Linde Group

In the 2015 financial year, The Linde Group generated revenue of EUR 17.944 bn, making it one of the leading gases and engineering companies in the world, with approximately 65,000 employees working in more than 100 countries worldwide. The strategy of The Linde Group is geared towards long-term profitable growth and focuses on the expansion of its international business with forward-looking products and services. Linde acts responsibly towards its shareholders, business partners, employees, society and the environment in every one of its business areas, regions and locations across the globe. The company is committed to technologies and products that unite the goals of customer value and sustainable development.
For more information, see The Linde Group online at www.linde.com.

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