

## Press release

### The natural gas specialist – Linde presents new technologies and concepts at Gastech in Tokyo

- Linde is a proven technology partner covering every step in the natural gas and LNG value chain
- Increasing plant engineering efficiency through modularisation concepts
- Exhibition highlight: Virtual reality tour through a process module in one of the world's largest gas processing plants demonstrates new training opportunities

**Tokyo, Japan / Pullach, Germany, 27 March 2017** – The Engineering Division of The Linde Group is showcasing its entire gas and liquefied natural gas (LNG) offering at Gastech 2017 in Tokyo, Japan. Visitors to the exhibition can gain in-depth insights into the company's wide technology portfolio, its modularisation and digitalisation concepts, and various reference projects.

Several important processing steps are required before natural gas can make its way from the well to the point of use. Linde has the technologies to support every step in this process flow. "As a one-stop partner, we supply our customers with cryogenic technologies and logistics concepts at every step of the LNG value and process chain," explains Jürgen Nowicki, speaker of the Linde Engineering Board. "We plan and build natural gas liquefaction plants across the full size spectrum – extending from small- and mid-scale plants to world-scale facilities and entire LNG import terminals." Heat exchangers are at the heart of every LNG plant. Linde is the only manufacturer worldwide to offer proprietary coil-wound and plate-fin heat exchangers. Linde's plate-fin heat exchangers are on display at the exhibition in Tokyo. The company also offers innovative technologies for removing unwanted nitrogen from natural gas streams (nitrogen rejection units, NRUs). In addition to this, Linde supplies plants for processing natural gas, recovering natural gas liquids (NGLs) and for extracting and liquefying helium. Natural gas is transported in gaseous form via pipelines. But it is also frequently shipped around the globe as a cryogenic liquid (cooled to minus 162 degrees Celsius) in LNG tankers. Increasingly, it is being used as a fuel for ships and other vehicles, and Linde offers end-to-end LNG fuelling solutions for these applications.

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“Modularisation in plant engineering is one of the buzz topics at Gastech,” explains Dr Marc Schier, Vice President Business Development & Sales Natural Gas Plants at Linde. “Linde created the ‘Modularisation Competence Centre’ to focus on developing natural gas reserves in regions that are difficult to access or have challenging climates.” With this modularisation concept, process units or even entire plants are premanufactured by experienced personnel at well-established locations and then transported to remote sites. “Modularisation enables us to reduce production costs, assembly timelines and risks, while raising production quality,” continues Schier. Linde has developed a modularisation concept for mid-scale LNG plants with a liquefaction capacity between one and two million tonnes per year that enables the entire process plant to be installed on barges. The individual process modules are assembled in yards; they are then installed on a single barge and transported from the yard to the respective near shore end destination.

The digitalisation trend is using the latest information and communication technologies to network more and more production processes. In response to this trend, Linde created the “Digital Base Camp” in Pullach and is showcasing its digitalisation innovations at Gastech. For the first time, the company is presenting concrete use cases at the show and highlighting the benefits and opportunities that they offer for plant engineering and operation. The virtual reality tour through a process module in one of the world’s largest gas processing plants is a particular highlight. Linde is currently building this plant in the Amur region of Eastern Russia. This realistic immersive experience provides valuable virtual training opportunities for plant operators. It can be used to familiarise employees with a plant before it has even been completed, thus streamlining the actual start-up process further down the line.

Linde will be at Gastech 2017 in Tokyo from 4 to 7 April. The company looks forward to welcoming visitors to stand 12-160 in Hall 4, where they can find out about the company’s latest projects, experience innovative technologies first hand and talk to Linde experts.

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### About The Linde Group

In the 2016 financial year, The Linde Group generated revenue of EUR 16.948 bn, making it one of the leading gases and engineering companies in the world, with approximately 60,000 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](http://www.linde.com)

### Further information:

Dr Thomas Hagn  
Technical Communications  
Phone: +49-89-35757-1323  
E-mail: [thomas.hagn@linde.com](mailto:thomas.hagn@linde.com)