

Joint press release

thyssenkrupp Uhde

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thyssenkrupp Uhde and Johnson Matthey join forces to offer an integrated solution for blue ammonia technology

- **Johnson Matthey and thyssenkrupp Uhde to combine expertise to offer integrated technology to produce low carbon (blue) ammonia that is more climate-friendly than current production methods.**
- **Demand for ammonia is growing because it's easier to store and transport than pure hydrogen and is key to decarbonising the world's power, shipping, and industrial processes.**

thyssenkrupp Uhde, a leading provider for engineering, construction and service of chemical plants, and Johnson Matthey (JM), a global leader in sustainable technologies, today announced they have signed a Memorandum of Understanding to jointly offer a fully integrated low carbon (blue) ammonia solution, building on a nearly 25-year ammonia relationship between the companies.

In the drive to reduce CO₂ emissions, the role of ammonia has expanded from a vital ingredient used to produce fertilizer for the agricultural sector, to a decarbonized carrier and supplier of hydrogen energy that's easier to store and transport than pure hydrogen. The movement of low carbon ammonia can utilize existing infrastructure making it a leading energy transition solution that's ready to capture, store, and ship vast quantities of hydrogen for use in the power and shipping sector, and industrial value chains globally.

By joining forces thyssenkrupp Uhde and JM can access the blue ammonia market together offering proven technologies combining the uhde® ammonia process and JM's hydrogen expertise through its LCHTM technology, which will enable the production of blue ammonia with up to 99% CO₂ capture.

thyssenkrupp Uhde has licensed, engineered, or constructed over 130 ammonia plants worldwide since 1928 and is market leading in plants greater than 3,000 metric tonnes per day with its unique uhde® dual pressure technology. JM's LCH technology, which utilizes JM's autothermal reformer alone, or in conjunction with JM's gas heated reformer, has been selected for several of the world's first large scale blue hydrogen projects including bp's H2Teesside, a 700-megawatt low carbon hydrogen production plant, and the H2H Saltend project with Equinor and Linde for a 600-megawatt low carbon hydrogen production plant.

Lucretia Löscher, COO thyssenkrupp Uhde, said: "At thyssenkrupp Uhde, we are committed to our purpose, 'we create a livable planet'. With this strong partnership we further broaden our portfolio of climate-friendly solutions and can help our customers even better to reach their sustainability goals."

Alberto Giovanzana, Managing Director – Catalyst Technologies at Johnson Matthey, said: "We know multiple routes are needed in the energy transition, and ammonia provides several options because it can be used directly in power and shipping industries, and as a hydrogen carrier to safely transport hydrogen to areas it is not easy to produce. Combining our expertise and over two decades worth of partnership with thyssenkrupp Uhde, we are excited to offer this technology which will allow our customers to produce ammonia with significantly lower CO₂ emissions."

About thyssenkrupp Uhde

thyssenkrupp Uhde combines unique technological expertise and decades of global experience in the engineering, procurement, construction and service of chemical plants. We develop innovative processes and products for a more sustainable future and thus contribute to the long-term success of our customers in almost all areas of the chemical industry. Our portfolio includes leading technologies for the production of base chemicals, fertilizers and polymers as well as complete value-chains for green hydrogen and sustainable chemicals. www.thyssenkrupp-uhde.com

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. For more information visit www.matthey.com

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