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Factory LNG: MAN Energy Solutions and Woodside Energy announce alliance on innovative LNG technology

Scalable 'Factory LNG' solution aimed at small-to-mid-scale LNG production globally

MAN Energy Solutions and Woodside Energy – a pioneer of the Australian LNG industry – have signed a cooperation agreement aimed at commercialising an innovative solution for small-to-mid scale LNG production. Known as Factory LNG, the technology combines Woodside's intellectual property and LNG experience with MAN's global manufacturing and project-execution expertise.

The concept involves a nominal 0.05 Mtpa unit, the size of 40-foot ISO shipping container, that can be transported via standard heavy-lift shipping and trucking logistics. It also includes MAN's HOFIM® high-speed, oil-free, integrated motor-compressor technology as used, for example, in subsea compression-station applications.

Factory LNG offers 10 years' low-to-no touch maintenance and provides flexible layout options making it easily adaptable to site constraints. The partners believe the newly developed infrastructure has the potential to unlock liquefaction capabilities at multiple locations around the globe. The system is designed and manufactured to be scalable so customers can increase the number of Factory LNG units used as the market grows, delivering LNG at pace with demand.

Wayne Jones OBE, Chief Sales Officer and Member of the Executive Board of MAN Energy Solutions, said: "I'm very excited about our new alliance with Australia's leading natural gas producer Woodside Energy. Liquefied natural gas represents an essential bridging technology towards a carbon-free future. With our new solution, LNG can be broadly applied, opening up significant potential for customers worldwide. It can be used to add capacity to existing production, or to create an LNG hub for marine, land transport or other industry needs, unhindered by traditional location constraints."

"Factory LNG's design paves the way for reduced manufacturing costs and shorter construction timeframes compared to traditional stick-built or modular LNG trains. The solution incorporates the complementary knowledge and skill sets of MAN Energy Solutions and Woodside Energy, which have experience in the development, manufacture and production of innovative technologies, as well as the deployment and operation of LNG facilities," said Basil Zweifel, Senior Vice President Sales & Project Management Upstream & Midstream at MAN Energy Solutions.

Woodside Vice President Technology Jason Crusan described it as a simple and reliable solution for end users, offering an attractive and accessible option for displacing fuels such as diesel with cleaner and cheaper LNG. "Woodside sees an important role for natural gas in a lower-carbon future. We are committed to

diversifying markets for LNG, including as a lower-emissions fuel for activities such as trucking and shipping. The Factory LNG system also brings potential for green fuel production by coupling it with synthetic methane units or biogas production.”

For more information about Factory LNG, please visit <https://www.man-es.com/oil-gas/campaigns/factory-lng>

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.

About Woodside Energy:

Woodside is Australia's leading natural gas producer, operating 6% of global LNG supply in 2020. It led the development of the LNG industry in Australia and is using the same passion and pioneering approach to progressing energy transformation. LNG is a lower-emissions, competitive fuel ideally suited to supporting decarbonisation and improving air quality. Woodside's aspiration is to reduce and offset carbon emissions to net zero by 2050. In working towards these decarbonisation targets, its focus includes carbon offsetting through bio-sequestration, utilisation of renewable power and the development of new energy opportunities through hydrogen.

Woodside has more than 30 years of experience as an operator, which began with the landmark North West Shelf Project. Its operated assets are renowned for their safety, reliability, efficiency and environmental performance. The company also has a strong track record in project development and is currently pursuing significant developments, including Scarborough off the coast of Western Australia and Sangomar in Senegal. Woodside's headquarters are in Perth, Western Australia, and it employs more than 3500 people.



Illustration of a Factory LNG application by Woodside Energy and MAN Energy Solutions

Virtual signing ceremony: MAN Energy Solutions and Woodside Energy have signed a cooperation agreement to commercialise Factory LNG – a new solution for small-to-mid scale LNG production.



MAN Energy Solutions representatives (from left to right, starting at the top): Karl-Heinz Berdais, Manager Turbomachinery Australia; Wayne Jones OBE, Chief Sales Officer and Member of the Executive Board; Hannah Tröster, Bid Manager Oil & Gas Midstream and Mikael Adler, Head of Region Asia Pacific.



Woodside Energy representatives (from left to right): Jason Crusan, Vice President Technology; Shaun Gregory, Executive Vice President Sustainability and Steven Cooper, Business Disruption Program Manager.