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WinGD on track to deliver ammonia engines in 2025

Swiss marine power company WinGD is on track to deliver its first X-DF-A dual-fuel ammonia engines by the first quarter of 2025, with the first X-DF-A powered vessels in service from 2026. The confirmation, which follows combustion tests at WinGD research facilities in December 2022, is backed by concrete orders and recent rapid progress in developing an engine concept capable of using the zero-carbon fuel efficiently, safely and reliably.

WinGD has disclosed ammonia fuel technology developments involving two shipowners. Last month it signed an agreement with AET Tankers and sister company Akademi Laut Malaysia to develop crew training on ammonia engines. In January 2023 it announced a partnership with CMB.Tech, a sister company of Belgian shipowner CMB, to develop ammonia-fuelled engines for ten 210,000 DWT bulk carriers.

The developments are supported by strong collaborations with engine and ship builders in China, Japan and Korea, as well as by WinGD's own extensive investment in research. Most recently, in June WinGD signed a memorandum of understanding with Mitsubishi Shipbuilding Co. Ltd to prepare X-DF-A for application across a range of vessel sizes and for integration with the engine builder's ammonia fuel supply system. This follows a development project with Hyundai Heavy Industries initiated in June 2022.

WinGD recently reported how a unique validation platform housed in its Engine Research & Innovation Centre (ERIC) in Winterthur, the [Spray Combustion Chamber \(SCC\)](#), had enabled rapid development of 2-stroke combustion concepts and emission models. Since first ignition in 2022, the team has gained a wealth of insights into the combustion and emission characteristics which form the basis for a rapid deployment of the technology to the portfolio. WinGD can now provide accurate figures for ammonia consumption and relevant emissions.

Tests on the unique, purpose built single-cylinder engine located at ERIC Winterthur and a multi-cylinder test engine at WinGD's Global Test Centre in Shanghai will commence, in collaboration with China Shipbuilding Power Engineering Institute Co. Ltd (CSPI).

Across the multiple collaborations and further work with class societies, ammonia fuel supply system suppliers and shipyards, WinGD has focused on defining safety aspects related to the engine installation and ammonia supply system. WinGD has recently published the guidance and installation documentation for its X-DF-A engines across a range of bore sizes, [available here](#).

WinGD CEO Dominik Schneider said: "For the industry to be truly ready for alternative fuels, the engine concepts that use them – and the vessel designs, auxiliary systems, crew training and field support network - need to be ready before the fuels become widely available. Our development timeframe, as evidenced by these milestones in research and collaboration, shows that we are on track to give shipowners and operators the time they need to prepare for decarbonised ship power using ammonia as fuel."

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Media Contact:

Anna Garcia
Director of Corporate Responsibility & Communications
E-mail: anna.garcia@wingd.com
Tel.: +41 52 264 8844

WinGD in brief

WinGD advances the decarbonisation of marine transportation through sustainable energy systems using the most advanced technologies in emissions reduction, fuel efficiency, hybridisation and digital optimisation. With their two-stroke low-speed engines at the heart of the power equation, WinGD sets the industry standard for reliability, safety, efficiency and environmental design, backed by a global network of service and support. Headquartered in Winterthur, Switzerland since its origin as the Sulzer Diesel Engine business in 1893, today it is powering the transformation to a sustainable future.

WinGD is a CSSC Group company.

For more information visit: www.wingd.com