

17 May 2023

Pioneering WinGD solutions deliver major benefits for new NYK Line carriers

In a first for Swiss marine power company WinGD, its dual-fuel X-DF2.0 engines power two newly delivered car carriers for Japanese ship owner NYK Line. The vessels feature its cutting-edge emissions reduction technology, energy management and digital optimisation solutions with the engine at the heart of the energy ecosystem.

The vessels feature the most comprehensive installation to date of WinGD's innovative ecosystem of solutions. The highly advanced WinGD technologies which feature in the sophisticated LNG-hybrid vessels include WinGD's X-DF2.0 iCER (Intelligent Control by Exhaust Recycling), X-EL Energy Manager and WiDE (WinGD integrated Digital Expert).

The state-of-the art 7,000 Car Equivalent Units (CEU) pure car and truck carriers *Jasmine Leader* and *Wild Rose Leader* are the first of a four-strong series of vessels for NYK Line using the same, extensive suite of WinGD solutions.

The LNG-battery hybrid configuration comprises WinGD's latest 7X62DF-2.1 two-stroke engines coupled with shaft generator, DC-links, batteries and bow thruster drives, with system integration and holistic energy management also provided by WinGD.

The vessels are the first in operation with WinGD's X-DF2.0 iCER technology which is designed to cool and recirculate part of the exhaust gas through a low-pressure path during operation in gas mode. The iCER technology reduces methane slip by 50% while providing significant efficiency gains.

NYK Line has noted that the new vessels, which also feature an enhanced hull design and other fuel economy features, will be 40% more energy efficient than conventionally fuelled ships in the same NYK Line fleet. That efficiency takes the vessels well beyond current and future CII requirements and past International Maritime Organization's (IMO) current greenhouse gas emission target for 2030.

The vessels also showcase the first deployment of WinGD's electrical energy solution, X-EL Energy Management, offering a new battery-hybrid power integration and sustainability service. By integrating two-stroke marine engine control into the electrified vessel power system, X-EL widens the range of vessels that can benefit from electrification as shipping seeks to improve efficiency and reduce emissions.

Based on its in-depth knowledge of main engine performance WinGD has optimised energy flow to run the main engine constantly at its optimal point while avoiding less ideal energy usage. The whole energy system is managed by X-EL Energy Manager.

The car carriers also feature the WiDE engine monitoring and diagnostics, which uses a digital twin of the unique system to compare ideal and actual behaviour based on real-time operation and conditions.

Anomalies from expected behaviour are detected, diagnosed and communicated to crew and shoreside teams with advice for troubleshooting and maintenance.

WinGD General Manager, Sustainability Solutions, Stefan Goranov, said: “These vessels highlight our most comprehensive representation to date of our ecosystem of solutions. They represent significant firsts and milestones for WinGD.

“This is the first deployment of X-EL Energy Manager and the first delivery of our X-DF2.0 technology. The vessels demonstrate how efficiency can be achieved through a holistic ecosystem approach to vessel power and propulsion.”

NYK Line Mr. Keita Fukunaga, Deputy Manager/Ship Design Team/Technical Group said: “These LNG-hybrid vessels are among the most sophisticated and efficient car carriers ever built and are central to our fleet renewal plan targeting net-zero emissions by 2050. With WinGD’s engine, energy management and digital monitoring systems onboard, they mark an important step towards delivering decarbonised vehicle transport for our customers.”

The vessels were delivered from Jinling Shipyard in China, where the remaining sister vessels will also be built.

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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