

Media Release

Voith Turbo

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First of three hybrid ferries for the Port of Hamburg to operate with eVSP technology

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- Two newly developed five-blade 9X5/100 electric Voith Schneider Propellers ensure low pollutant and noise emissions combined with optimum maneuverability to deliver a high level of safety
- Voith is not only responsible for the propulsion technology, but also for optimizing the ship's hull

HEIDENHEIM, GERMANY. Another milestone has been reached on the road to the electrification of ship propulsion systems, both for Voith and the traditional HADAG Seetouristik und Fährdienst AG: The first of three new type 2030 ferries for the Port of Hamburg have been commissioned in July 2024 and will be powered by an environmentally-friendly hybrid system comprised of two electric Voith Schneider Propellers (eVSPs).

Come rain, hail or shine, HADAG ships have been sailing through the Port of Hamburg and on the Elbe River since 1888, with operations spanning 365 days and around 330,000 nautical miles a year. In cooperation with the Hamburg Public Transport Association, HADAG operates all local ferry traffic on eight lines with 20 piers. In order to be optimally equipped for future economic and ecological challenges, sustainable fleet modernization measures are now in full swing.

The latest flagship in the fleet is the type 2030 hybrid ferry, which Voith has developed in conjunction with SET Schiffbau- u. Entwicklungsgesellschaft Tangermünde – a member company of the Heinrich Rönner Group – and Flensburg ship designers at naValue GmbH. What is particularly special about this application is that Voith was not only responsible for the propulsion technology but also for optimizing the ship's hull.

“Aided by CFD simulations and automated optimization methods, our R&D experts created over several hundreds individual hull design variants and calculated their respective energy efficiency levels, while strictly observing

the customer's exacting performance and consumption requirements. Numerous model tests were also carried out, which confirmed the result of our calculations," reports Oliver Lenz, Sales Application Manager Marine at Voith.

In addition to this result, further key data relating to the new ferry make for impressive reading. Courtesy of the optimized hull, the new ferry is larger than all of HADAG's previous ferries, measuring 33 meters in length and eight meters in width. It has additional space for multi-functional areas and up to 250 passengers while running with significantly reduced energy requirements.

The necessary thrust and a maximum speed of up to 13 knots are provided by two 9X5/100 eVSPs – also newly developed – which are fitted with integrated permanent magnet electric motors from ELIN Motoren, a subsidiary of Voith Turbo. "Our smallest version to date of the gearless propulsion system expressly requested by the customer ensures the highest level of comfort on board at all times while significantly reducing energy requirements. Characterized by optimal maneuverability, the propulsion system has the distinction of providing a high level of safety, even in the often hectic and sometimes adverse conditions encountered in the Port of Hamburg," say Lenz.

The experts from Voith also held several advance training sessions with HADAG captains, enabling them to familiarize themselves with the advantages of the eVSP before the first of three hybrid ferries is commissioned.

The advantages of the eVSP cannot only be experienced live on board the new ferry in the Port of Hamburg but also at the Voith booth (stand number 205, hall 4A) at SMM in Hamburg – the most important industry event of the year – from Sept. 3-6, 2024.

About the Voith Group

The Voith Group is a global technology company. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, paper, raw materials and transport & automotive. Founded in 1867, the company today has around 22,000 employees, sales of € 5.5 billion and locations in over 60 countries worldwide and is thus one of the larger family-owned companies in Europe.

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The Group Division Voith Turbo is part of the Voith Group and a specialist for intelligent drive technology, systems as well as tailor-made services. With its innovative and smart products, Voith offers highest efficiency and reliability. Customers from highly diverse industries such as oil and gas, energy, mining and mechanical engineering, ship technology, rail and commercial vehicles rely on the advanced technologies and digital applications of Voith.

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About ELIN Motoren

ELIN Motoren produces electric motors and generators in small series and custom solutions for various industrial applications. ELIN Motoren specializes in markets such as marine, wind energy, plastics, tunnel and mining, oil and gas, plant construction, and power plants. The range of applications spans from low-voltage to medium-voltage and high-voltage machines. ELIN Motoren GmbH employs around 1,100 employees and has been part of the Voith Group since 2021.



The first of three hybrid ferries with space for up to 250 passengers.



Propulsion is provided courtesy of two newly developed, 5-blade 9X5/100 eVSPs – the smallest version to date of Voith's gearless marine propulsion system.

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