Media Release

Voith GmbH
Group Communication
St. Poeltener Straße 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2749
Fax +49 7321 37-132749
www.voith.com

Voith Linear Jet: The Efficient, Reliable and Low-Noise Propulsion Solution for Fast Windfarm Support Vessels

2016-08-30

- **Combines advantages of propellers with those of water jets**
- **Hydrodynamically optimized design**
- **Low noise emissions through an encapsulated rotor**
- **Facilitates operation in rough seas thanks to high course stability and constant thrust**

Heidenheim: The 21 meter Trearddur Bay, a Crew Transport Vessel (CTV) owned by Welsh ship operator Turbine Transfers, has been transporting personnel, material and tools to offshore wind farms for slightly more than a year. She is the first CTV propelled by a Voith Linear Jet (VLJ) with the power being transmitted from two 900 kW diesel engines. The innovative Voith propulsion system is perfectly suited to the CTV requirements – namely high static thrust, high efficiency over the entire speed range, excellent maneuverability and low noise, vibration and emissions. Fast, safe, comfortable and efficient transport even in rough seas requires all these qualities to come together.

Highly efficient over the entire speed range

The VLJ combines the advantages of propellers with those of waterjets. The VLJ nozzles are optimized in order to generate high static thrust while at the same time providing a consistently high level of efficiency over the entire speed range from approx. 20 to over 40 knots. The VLJ is therefore ideally suited for ships with a mixed operating profile from slow cruising to traveling at higher speeds. Its high propulsion efficiency results in low fuel consumption while at the same time ensuring a high degree of operative flexibility. The efficiency of conventional propellers declines steadily at ship speeds in excess of approx. 25 knots when cavitation increases. At the same time, noise and vibration levels rise. Water jets by contrast are highly

Voith GmbH
Group Communication
St. Poeltener Straße 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2749
Fax +49 7321 37-132749
www.voith.com

efficient for applications with speeds in excess of approx. 35 knots but plunge in efficiency at lower speeds.

Robust, reliable and low-noise
The VLJ only has few movable parts made of high-quality materials making it robust and reducing maintenance requirements. The hydrodynamically optimized rotor encapsulated by the nozzle reduces noise and vibration emissions over the entire speed range – advantages that are frequently praised by the Trearddur Bay crew.

Precise maneuvering in any water depth and at any speed
A CFD analysis tailored to each ship ensures optimum VLJ integration into the vessel hull. The result is a high propulsion efficiency over the entire speed range combined with a shallow draft. At high speeds, the nozzle improves course stability. The stator aft of the rotor linearizes the rudder inflow and enables safe and precise maneuvering even in rough seas. Specific thrust allocation algorithms have been developed for maneuvers at low speeds. They are adapted to the relevant vessel parameters and enable the integration of maneuvering aids such as bow thrusters. The VLJ can also be combined with hybrid or electric propulsion systems instead of diesel engines, lending itself not only to workboats but to a wide variety of applications such as yachts, fast ferries or coastguard vessels.

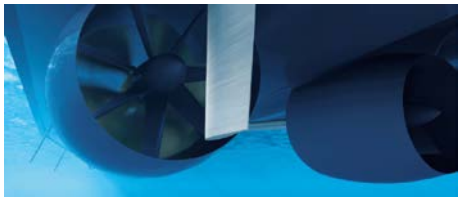
Voith Turbo, a Group Division of Voith GmbH, is the specialist for intelligent drive solutions and systems. Customers from highly diverse industries such as oil and gas, energy, mining and mechanical engineering, ship technology, rail and commercial vehicles rely on advanced technologies from Voith Turbo.

Voith sets standards in the markets for energy, oil & gas, paper, raw materials, transport & automotive. Founded in 1867, Voith employs more than 20,000 people, generates €4.3 billion in sales, operates in over 60 countries around the world and is one of the largest family owned companies in Europe.*
*Excluding the discontinued Voith Industrial Services Group Division.

Voith GmbH
Group Communication
St. Poeltener Straße 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2749
Fax +49 7321 37-132749
www.voith.com

The Voith Linear Jet (VLJ) combines the advantages of propellers with those of water jets.

The Trearddur Bay is a Crew Transport Vessel (CTV) owned by Welsh ship operator Turbine Transfers and transports personnel as well as material and tools to offshore wind farms.



The VLJ nozzles are optimized such that they generate high static thrust while at the same time providing a consistently high level of efficiency over the entire speed range from approx. 20 to more than 40 knots.

Contact:
Matthias Herms
Global Market Communication Manager
Tel. +49 7321 37-2469
Matthias.Herms@Voith.com

Voith GmbH
Group Communication
St. Poeltener Straße 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2749
Fax +49 7321 37-132749
www.voith.com

Twitter
https://twitter.com/voithgmbh
https://twitter.com/voith_hydro
https://twitter.com/voith_paper
https://twitter.com/voith_turbo
https://twitter.com/voith_DS
https://twitter.com/voith_Career

LinkedIn
https://www.linkedin.com/company/voith-gmbh
https://www.linkedin.com/company/voith-hydro
https://www.linkedin.com/company/voith-turbo
https://www.linkedin.com/company/voith-paper
https://www.linkedin.com/company/voith-digital-solutions

YouTube
https://www.youtube.com/user/VoithTurboOfficial
https://www.youtube.com/user/VoithPaperDEU
https://www.youtube.com/user/VoithPaperEN
https://www.youtube.com/c/Voith_Hydro

Instagram
https://www.instagram.com/voithgmbh