



Ferries Worldwide Use Environmentally Friendly Propulsion Technology From ZF

- **Trusted worldwide: Lightweight, robust and efficient marine transmission systems by ZF**
- **Hybrid-capable ZF transmissions reduce emissions and fuel consumption**
- **Condition Monitoring System increases operational safety and can extend the service life of propulsion systems**

Friedrichshafen/Lillestrøm. Whether they are crossing small bodies of water between cities or large bodies of water connecting whole countries, ferries provide an efficient way to transport people, vehicles and cargo. As cities grow, worldwide tourism increases and new emission laws are put into place, there is more need than ever for new and more advanced ferries. With its decades of experience and broad product portfolio, ZF is the perfect partner for efficiently and economically mastering this challenge. Around the globe, ship builders thus choose to put their trust in the market leader in marine propulsion systems.

To stay abreast of trends and developments toward emission-free waterways, ZF has already expanded its portfolio with hybrid-ready transmissions such as the brand-new ZF 8300 PTI with integrated power take-off. ZF has also taken the next step and mated this same transmission to CeTrax, an electric drive developed in-house by the Group. The concept was first unveiled at the SMM show in Hamburg, Germany in 2018. The scope of supply can be further expanded with input shafts, fixed pitch propellers and controls produced by ZF. Hybrid and purely electric, emission-reduced and climate-neutral ferries powered with ZF technology already operate in Tasmania, Sweden and Switzerland.



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Decades of efficient and economical drive technology

For decades, ship builders have chosen to put their trust in ZF as the market leader in marine propulsion systems. Fewer emissions, less demand on road infrastructure and shorter travel times – ferries offer a lot of advantages for communities located near the water. While the design of a vessel will always depend on its route and its required capacity, manufacturers and operators can agree on one important aspect: Ferries need to be fuel-efficient during operation and provide a low total cost of ownership. Furthermore, they must be ready today to already fulfill the environmental regulations of tomorrow.

As one of the world's leading technology companies, ZF can leverage its decades of know-how and expertise in all kinds of applications – benefiting from synergies in automotive, commercial vehicles, industrial technology and more – to provide lightweight, robust and highly efficient transmissions for marine propulsion systems. Using these skills, existing drive concepts can be efficiently adapted to use new technology, produced economically and enhanced by proven digital supplementary functions. Tried-and-tested quality and cost-effective acquisition speak for themselves: This is why around the world, ferry builders and operators opt for ZF.

Trusted worldwide

The City of New York, for example, started expanding its ferry service in 2017 to help reduce the congestion of thousands of daily commuters who need to cross the East River. To establish this city-wide ferry service, the construction of new terminals was contracted and 19 new vessels were commissioned. "The delivery schedule for this project was very tight, and the project's progress was closely followed by the public, which made it a big challenge. We did not miss even one milestone", says Wolfram Frei, head of Global Sales at ZF Marine Propulsion Systems product line Commercial and Fast Craft.

On the other side of the globe, Australian companies Austal and Incat have gained a reputation as manufacturers of some of the biggest and fastest ferries available on the market. Both trust ZF's design and quality



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when selecting transmissions for their latest builds – including catamarans operating in Denmark and ferries in Malta.

Beside these flagship projects, ZF was also able to support many other ferry projects worldwide: on the Indonesian and Philippine archipelagos, the mainland of China, lakes in Africa, routes to islands in Europe, for tourism projects in Central America and more.

Future-ready through condition monitoring

In addition, ZF has developed a Condition Monitoring System for its propulsion solutions that lets operators recognize potential issues in advance and maintenance accordingly to shorten costly downtime and avoid failures. This helps to further reduce the total cost of ownership.

Caption:

Switzerland's first carbon neutral ship, the "MS Diamant", has been in operation on Lake Lucerne since 2017. Built by the Shiptec AG shipyard, the ferry is powered by two hybrid engines in conjunction with two ZF 3000 V transmissions.

Image: Lakelucerne

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ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. With its comprehensive technology portfolio, the company offers integrated solutions for



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established vehicle manufacturers, mobility providers and start-up companies in the fields of transportation and mobility. ZF continually enhances its systems in the areas of digital connectivity and automation in order to allow vehicles to see, think and act.

In 2018, ZF achieved sales of €36.9 billion. The company has a global workforce of 149,000 with approximately 230 locations in 40 countries. ZF invests over six percent of its sales in research and development annually.

For further press information and photos please visit: www.zf.com