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Press Release

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Christening and launch of “E-Ship 1” in Kiel

On 2. August, ship naming and launching ceremonies for ENERCON's new “**E-Ship 1**” will take place at Lindenau GmbH shipyards in Kiel. After launching, the ship will be hauled to the fitting dock where the final details – fixtures, fittings and equipment – will be installed before the ship is delivered in December this year.

The ship's sponsor, Martina Kuhlmann, ENERCON executive assistant, christens the vessel “E-Ship1” and wishes it the typical German saying: “Immer eine Handbreit Wasser unterm Kiel” which means “always at least as much water under the keel as the hand is wide”, and in addition “always favourable winds”.

The name “E-Ship” was originally only meant to identify the project, but in the meantime the name has caught on so well that ENERCON decided to use it to name the actual ship. The “**E-**” in E-Ship is a symbolic letter. It stands, for example, for “**ENERCON**” the ship's proprietor, for “**Electro-technology**” which is of great significance on the ship, for “**Environment**” synonymous with the company's environment-protection objectives, for “**Economy**” a vital element for a lasting shipping concept and, last but not least, for “**Ecology**”, the ultimate aim of taking as many ecological aspects of the ship's operation as possible into consideration. But other terms such as “**Energy**”, “**Earth**”, “**Encouragement**”, “**Endurance**”, “**Experience**” and of course “**Experiment**” can also be associated with the E-Ship.

Next year, after the ship has been fully equipped and trial runs completed, the Aurich-based wind turbine manufacturer will start using the vessel to transport its turbines and components worldwide. A large portion of the energy required to propel the ship will be supplied by four sailing rotors – large, rotating, vertical metal cylinders, 25 m tall.

“The ship is an important element in our company's strategy of contributing to reducing CO₂ emission through innovative renewable energy technologies”, says company founder Aloys Wobben. “When it comes to replacing conventional energy production with renewable solutions, it is essential not to neglect the transport sector. We now have the opportunity to demonstrate that the use of sailing rotors in maritime transport can save a lot of fuel.”

Rolf Rohden, project manager and chief development engineer in charge of the E-Ship adds: *“The E-Ship will not only be a forerunner in matters of energy efficiency but also in environmental protection. It is part of a sustainable overall concept which is not only based on reducing fuel consumption, but also places emphasis on environment-friendly treatment of exhaust gases, waste and ballast water, as well as more efficient methods of disposing of and avoiding waste. The standards we set are far more stringent than those stipulated in the current IMO and ship classification guidelines.”*

The E-Ship's main components, including the sailing rotors, the highly efficient main engines, and the ship's streamlined silhouette (above and below the water line), were developed directly by ENERCON engineers. The perfectly balanced combination of all these components helps reducing fuel consumption considerably. Once underway, E-Ship 1 will provide information as to actually how much fuel can be saved and by how much exhaust emission is reduced in regular operation. This data will form the basis of optimising individual components and thus promote further technological development.

Dirk Lindenau, Managing Director at Lindenau GmbH shipyards, along with his staff, is proud to be building the E-Ship for ENERCON: *“Currently, the E-Ship is the world's most modern sailer. We are excited about meeting the challenges posed to all our departments by this sophisticated ship. Experience we are gaining today will qualify us for jobs tomorrow and give us an edge over other shipyards. Today, most standard ships are being built in foreign countries. On a long-term basis, if Germany wants to remain competitive as a shipbuilding country, we will have to be able to build special ships which offer innovative solutions for pressing issues such as ship operation costs and sustainability.”*

Sailing rotors use a physical phenomenon first demonstrated in an experiment carried out in 1852 by German physicist, Heinrich Gustav Magnus. A spinning cylinder in a moving airstream creates a lateral force perpendicular to the direction of the airstream which, when used on ships, propels the ship forward. The German engineer and inventor, Anton Flettner, first used this principle for ship propulsion at the beginning of the 1920s when he had an experimental vessel equipped with two large cylinder rotors at Germania shipyards in Kiel. At the time, the “Buckau” caused a big stir and, in several trial runs, successfully proved that the rotors were efficient. However, the ship was ahead of its time and, due to the low cost of fuel, ship owners were not interested in sailing rotors so they were abandoned. Times have changed radically, though.

ENERCON GmbH has already installed more than 13,000 wind turbines in more than 30 countries. It is one of the world's leading manufacturers of wind turbines and has been German market leader for many years now. ENERCON has constantly been setting new standards in innovative and technological design for over 20 years. The expertise in developing and producing wind energy turbines is now being put to use in other sectors of renewable energy production such as hydropower turbines and drive systems for ships.



Research and development, as well as production and sales are constantly being expanded. For 2008/2009, the enterprise expects its export share to exceed 60 %, gradually increasing over the years to come.

Since 1919, **LINDENAU Shipyard** has been well known on the international market for safe, economical and environment-friendly ships. It specialises in the development, construction, and building of all types of ships up to 50,000 dwt. Also included in their activities are transforming and extending ships, repair services and classification work, diversification and new technologies, as well as consulting and engineering – all in close collaboration with the customer and within the shortest possible time. Ideally, situated in Kiel near the Kiel Canal, LINDENAU GmbH is one of Germany's most modern and productive SME shipyards.

Technical data E-Ship 1

Length:	130 m
Width:	22.5 m
Draught:	6-9 m
Tonnage:	10.500 tdw / 9.700 tdw
Speed:	17.5 kn
Engine power:	2 x 3,500 kW
3 holds below deck, capacity:	20.580 m ³
Ice class	E3

Class index:

GL  100 A5 E3 with freeboard 2.010m
NAV-OC IW BWM SOLAS II-2, Reg.19 EP COLL
Multi-Purpose Dry Cargo Ship
Equipped for the carriage of containers
Strengthened for heavy cargo
 MC E3 AUT RP1-40% RCP 46/100

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Images

Images suitable for printing available at www.enercon.de.



Mounting of a ship section.



Artist's view of the "E-Ship 1".

The newbuilding at the Lindenau Shipyard in Kiel.