



FRAUNHOFER CENTER FOR MARITIME LOGISTICS AND SERVICES CML

PRESS RELEASE

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Project presentation of Vindskip[™] on 11 September 2014 at the Fraunhofer booth at SMM in Hamburg

Hamburg – The much-discussed energy efficiency in merchant shipping offers a wide field for researchers and engineers, but also for innovators. While working on the optimization of propulsion machinery and fuel use, some recent inventions focus on the original source of navigation, the wind. Developments in the last years were the use of sails, kites and Flettner rotors. Now the Norwegian engineer Mr Terje Lade has developed a ship whose hull is used as a sail: Vindskip™. Additionally equipped with an LNG-drive to handle lowwind passages and maneuvers, Vindskip™ is expected to reduce fuel consumption up to 60%.



Computer graphic of Vindskip™, copyright Lade AS

Depending on the travel situation the LNG propulsion is not alternatively, but concomitantly used. Thus the engine accelerates Vindskip $^{\text{TM}}$ to travel speed and then maintains a constant speed, which allows an optimal use of the prevailing wind conditions.





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For the efficient operation it is thus essential to use the available wind energy potential on each trip. To find the best sailing route, the Fraunhofer Center for Maritime Logistics and Services CML will develop a customized weather routing module. Using meteorological data und navigational algorithms a "Navigation Optimising System" will help to find and make profit of optimum wind angles.

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Vindskip-patent holder Terje Lade expects RoRo, RoPax, car, passenger and container vessels as relevant ship types to realise his innovative concept.

On September 11, 2014, at 9:30 a.m. Mr Terje Lade and Professor Jahn from Fraunhofer CML will present the project at the Fraunhofer booth 411 in hall B6.

About Fraunhofer CML

The Fraunhofer Center for Maritime Logistics and Services CML develops and optimizes processes and systems along the maritime supply chain. Within practically oriented research projects CML supports public and private sector clients of port operations as well as from the logistics services industry and from the shipping business.

Fraunhofer-Gesellschaft

Research of practical utility lies at the heart of all activities pursued by the Fraunhofer-Gesellschaft. At present, the Fraunhofer-Gesellschaft maintains 67 institutes and research units. The majority of the more than 23,000 staff are qualified scientists and engineers, who work with an annual research budget of 2 billion euros. Of this sum, more than 1.7 billion euros is generated through contract research. More than 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects.