

**ROBOTS, RADAR AND HULL COATING - FRAUNHOFER****GESELLSCHAFT AT SMM 2018****Highlights of maritime research - this year at SMM in Hamburg, seven Fraunhofer institutes present current research topics in Hall B6, Booth 319**

Fraunhofer facilities offering maritime solutions are united under the umbrella of the Waterborne Group. The aim of the Waterborne working group is to support shipping companies, shipyards, ports, logistics service providers and the maritime supply industry in fulfilling their tasks and to develop solutions tailored to the customer.

Seven institutions are exhibiting together at SMM: The **Fraunhofer Center for Maritime Logistics and Services CML** in Hamburg is working on a novel hull coating with biomimetic properties. The floating fern, which serves as a model for this, as well as first samples from preliminary research are exhibited in water basins. In addition, the CML presents current developments from its work on autonomous shipping.

The **Fraunhofer Institute for Computer Graphics Research IGD** is conducting research in Rostock on the use of visual computing in the maritime industry. This year, the IGD is presenting data goggles with which the wide range of information is made virtually available, for example in the design area. The "HoloLens" used for this purpose can be tried out by visitors at the stand!

The **Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM** from Bremen presents its developments for new surfaces for ship hulls on a ship model. In addition, the researchers provide information about their test environments on Helgoland and Sylt, which are also used on behalf of customers for scientific research, e.g. on corrosion and hull fouling under real environmental conditions in the North and Baltic Sea.

The detection of shipwrecked persons is the basic requirement for the salvage of persons in water. However, the higher the waves rise, the more difficult the visual contact becomes. A research consortium in cooperation with the **Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR** from Wachtberg has developed a novel solution for the detection of persons or other objects in water. The radar exhibited at the SMM receives frequency-modulated signals generated by a novel transponder and detects a suitably equipped person in a crowd.

The **Fraunhofer Research Institution for Large Structures in Production Engineering IGP** from Rostock presents the latest developments for manufacturing. Two robots show

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**FRAUNHOFER CENTER FOR MARITIME LOGISTICS AND SERVICES CML**

the state of the art in maritime production through the use of intelligent sensor guidance and innovative image processing. The autonomous programming of the robots represents a new step towards economic implementation.

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**INFORMATION**27. Juni 2018 || Page 2 | 2

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The **Fraunhofer Institute for Structural Durability and System Reliability LBF** in Darmstadt is showing innovative elements for vibration reduction in maritime environments. In particular, vibrations and oscillations in the power trains of main and ancillary units lead to undesirable side effects such as increased wear and noise emissions in maritime applications, combined with an overall reduction in service life. A toolbox developed by LBF develops optimizations and solution proposals using analytical and numerical methods.

The **Fraunhofer Institute for Digital Media Technology IDMT** from Oldenburg offers more to try out: triggered by the realization that many dangerous situations at sea up to accidents and other incidents are caused by insufficient clarity in communication, the IDMT has developed a training platform. The IMO's English "Standard Marine Communication Phrases" were converted by the researchers into a dialogue-oriented training tool that can also be used online.

New this year is the offer of lectures at the stand: Every day at 11 a.m. and 3 p.m. the Fraunhofer researchers will present selected solutions in short **lectures and demonstrations**.

Furthermore, the **Fraunhofer Forum Waterborne** with the title "Shipping Under Extreme Conditions" will take place at this year's SMM on September 5, 2018.

All current information can be found on the CML homepage at <https://www.cml.fraunhofer.de/en.html>.

**The 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.

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**The Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe. Its research activities are conducted by 69 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of 25,500, who work with an annual research budget totaling more than 2.3 billion euros. Of this sum, more than 2.0 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. International collaborations with excellent research partners and innovative companies around the world ensure direct access to regions of the greatest importance to present and future scientific progress and economic development.