

THE FRAUNHOFER CML

The Fraunhofer Center for Maritime Logistics and Services CML develops and optimizes processes and systems along the maritime supply chain. We support private and public-sector clients with the initiation and realization of innovations through practical research projects in the fields of shipping, ports and logistics.

In accordance with the project and customer requirements, we put together interdisciplinary teams of engineers, economists, mathematicians, information scientists and marine engineers to create customer-specific solutions for ship and fleet management, marine transport and navigation, ports and transportation markets.

We take both the results of our varied research activities and the latest scientific insights into account. Fraunhofer CML is part of the Fraunhofer Institute for Material Flow and Logistics IML in Dortmund.

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INNOVATIONS FOR THE MARITIME INDUSTRY





TRANSPORT MARKET ASSESSMENT

Ongoing globalization, the availability of innovative technologies and rapidly changing market requirements are altering maritime supply chains. Making infrastructures and transport chains more flexible is one answer to these developments. CML supports its customers with market development trend studies and assists with strategic, future-oriented investment decisions.

OUR OFFER

- Data processing and statistical analyses of traffic volumes and transportation demand
- Simulation-based determination of traffic projections for strategic infrastructure development
- Cost-benefit analyses, infrastructure and technology assessments
- Use of planning tables for visually supported port and terminal planning
- Software applications for process modeling and logistics simulation

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SEA TRAFFIC AND NAUTICAL SOLUTIONS

The growth of maritime transport and increasing ship sizes pose safety and efficiency challenges in maritime shipping that can be overcome through information technology innovations and nautical solutions. CML brings these two sides together in maritime transport and navigation. Ship technologies, traffic and waterways are analyzed, assessed and optimized, thereby improving the efficiency and safety of shipping traffic.

OUR OFFER

- Use of ship handling simulators as test environments for innovative nautical technologies and processes
- Development and assessment of technologies for autonomous systems and nautical assistance systems
- Nautical safety analyses for planning approval purposes and port layout assessment
- Nautical risk analysis and maneuver optimization
- AIS-supported analyses of maritime transport and routing

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SHIP AND INFORMATION- MANAGEMENT

Modern maritime information management on board and on land harbors significant efficiency and cost effectiveness potential. One focus is on crewing and procurement processes that often constitute a large proportion of the operating costs. CML develops and pilots individual solutions for its customers to optimize business processes for the operation and control of shipping fleets.

OUR OFFER

- Development of environments to support personnel requirement planning and crew scheduling decisions
- Mathematical optimization for planning decisions
- Strategic procurement planning for the supply of fleets
- Support with the conceptual design and optimization of after-sales services in the maritime supplier industry
- Development of new information and communication technologies

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