

# CMT3

## Center of Maritime Technologies e.V. Organization and Support to EMShip

### EMSHIP Strategic Advisory Board Meeting

Dr.-Ing. Frank ROLAND  
Managing Director

EMShip SAB Meeting Brussels, 2010-12-02/03

## CMT – Development and Mission

### The Association:

- 85 members (shipyards, equipment, ship operators; universities, research centers)
- strong European links
  - European Associations;
  - European industry (e.g. EuroYards);
  - European research centres (e.g. SICOMP);
  - European projects
- ca. 13+ employees, ca. 1.2 Mio € turnover (2009)
  - multi-national team (DE, FR, NL, Russia, China)

### Services for Members:

- contact point for innovative ideas and technical questions;
- Information on RDI funding programmes, projects and competences;
- strategy development and political support in Germany and Europe;
- R&D network and joint development of competences;
- technology transfer and application of R&D results;
- own resources for contract research and development.

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## CMT – A Research and Engineering Centre

- Research is following a **Strategic Agenda** which is regularly updated together with our members;
- Engineering services** for members and **European** companies within and outside funded R&D projects;
- Since 2002:
  - ca. 40 involvements in funded RTD Projects;
  - ca. 35 direct industry contracts;
  - ca. 40+ German Joint Industry Projects (SME).
- Main **Fields of Expertise**: focus on interdisciplinary approaches
  - Investment and Production Planning;
  - Joining, Production Equipment, Process Development, Approval, Quality;
  - Strength, Materials (metallic and composite);
  - Ship concepts and Life Cycle Performance assessment (cost, environment, safety);
  - Onboard energy management, fuel cells;
  - Central Design and Tool Platform.

covered with own expertise and through the CMT network.

Fotos: VSM

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## CMT – Selected Projects – Production Planning








**Topics:**

- facility and production planning;
- joining (laser, adhesive bonding);
- production organization;
- intelligent production equipment;
- QA and statistical process models

**Cooperations:**

[www.simcomar.com](http://www.simcomar.com)  
SLV Rostock

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## CMT – Selected Projects – Lightweight Structures


















**Topics:**

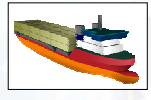

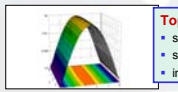
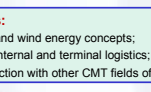
- metallic and composite structures;
- joining and outfitting – design and production;
- FE calculations (fire, strength, fatigue)

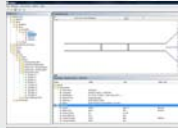

**Cooperations:**

- Swerea Sicomp

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## CMT – Selected Projects – Ship and Offshore Concepts

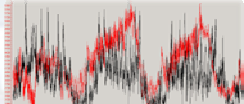






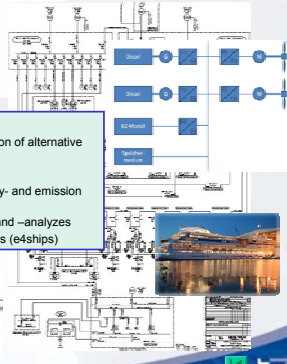

**Topics:**

- ship and wind energy concepts;
- ship internal and terminal logistics;
- interaction with other CMT fields of expertise.

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**Topics:**

- Concepts for integration of alternative energy sources
- Energy-flow analysis
- Identification of energy- and emission saving potentials
- Operational profiling and –analyses
- Application of fuel cells (e4ships)



- CMT aims to support innovation and competitiveness in the European maritime sector  
**well educated and motivated young people are the backbone of our industry;**
- Analysis of educational needs and qualification profiles by CMT (CESA) for CAREMAR:
  - need for **European curriculae** for an international labour market;
  - engineers need a **wide portfolio of skills and knowledge**;
  - university education needs to be complemented by **specific practical skills**;
  - **post-graduate training** needs to be strengthened;
  - practical experience through **industry placements** and practical terms.
- CMT Vision:
  - a **maritime industry expert network**, independently from downturns in individual companies (European Pool of Experts);
  - close **Industry and Academia** partnership.

While CMT is not directly a education and training facility we try to **implement our vision in our everyday work as association and research centre**.  
We think EMSHIP is also contributing to our vision and the needs of the industry.

- **internships and thesis** within our organization
  - 2-3 students working permanently with CMT;
  - in cooperation with European universities;
  - focus: **production planning, lightweight structures, energy management, life cycle assessment**
  - for details check our website or contact us at [info@cmt-net.org](mailto:info@cmt-net.org).
- excellent **contacts with the German and EU maritime industry**
  - we are happy to assist you in finding internships and jobs within the industry;
- **Grants** for students **to participate in conferences** co-organized by CMT and partners
  - e.g. European Conference on Production Technologies in Shipbuilding – see [www.ecpts.de](http://www.ecpts.de)
- **attractive jobs** within our research centre
  - see also our website at [www.cmt-net.org](http://www.cmt-net.org) for actual offers;
  - possibilities for post-graduate qualification in cooperation with universities (PhD).
- Support to European students for **visits to the European and international maritime industry**

- **integrated in European projects**
  - offering insight also in research project management;
  - closely working with industry (may involve part time working in industry);
  - minimum internship time 3 months;
- **where did „our students“ end up ?**
  - shipyards (Meyer Werft, Flensburger, ICH);
  - software and consultancy (e.g. SIEMENS PLM services – eMPlant);
  - in our research team
- **Topics we offer** (please check for up-to-date details)
  - simulation – scheduling and resource planning of new building and repair, logistics within cruise ships, data structure for distributed simulation, outfitting
  - lightweight structures (steel and composites): strength, fatigue, fire
  - energy balancing and management onboard ships, fuel cells;
  - life cycle performance assessment of cruise vessels;
  - research management and strategy development

**Welcome to our industry !**

*Thank you for your attention!  
Questions and comments are welcome !*



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