Virtual Engineering for the Shipbuilding Industry

Virtual Engineering ... 
... Engineering Services for the Shipbuilding Industry

Computer Simulation of Drive Systems 
in Shipbuilding & Special Marine Applications

Customer-Dedicated Engineering Services

Application and Distribution
of User-Friendly Software
for PCs (Windows 10 and later)

Laschet Consulting is specialist in computer simulation technology. Due to longterm experiences in the simulation of complete drive systems, we offer a customer CAE Service for Engineers worldwide including consultation and analysis concerning the DYNAMIC BEHAVIOR OF MAIN AND AUXILIARY (P.T.O.) DRIVELINES OF SHIPS (to analyze torsional & lateral vibrations), e.g.:

- Analysis of gear dynamics (with all backlashes in the gear stages)
- Special effects in marine applications (maneuver simulations like “crash-stop”, dredging effects)
- Multi-parameter analysis of excitability (natural behavior, vibration modes, CAMPBELL diagrams)
- Interdependences of engine/E-motor & main transmission & P.T.O.
- Steady-state simulation to optimize dampers & absorbers
- Considering typical non-linear effects (clutch; joint discs; angle–velocity–load dependent elasticities & dampings in rubber/soft couplings, dampers, absorbers, friction elements)
- Engine/E-motor analysis with all auxiliary drives (including misfiring effects etc.)
- Special analysis of test rigs and mapping of test programs

Our CAE Service provides the customer with a project-oriented analysis and interpretation of vibrations caused by external or internal excitation or parametrically excited disturbances. Nonlinear characteristics like backlash or torque-angle-hystereses can be taken into account, too. In order to meet all customers’ requirements, Laschet Consulting uses and distributes high-sophisticated simulation software in close cooperations with software & engineering companies like RBTS, Inc., USA with the rotordynamic software ARMD (www.rbts.com).

We present “Service for Engineers” regularly at international conferences and exhibitions: ASME, POWER-GEN, SAE, IMechE, VDI, Hdt, EFRC, etc. Please also visit our International Rotordynamic Seminars in close cooperation with our partner RBTS, Inc., USA.

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The Professional Engineering Service ...
... supported by RBTS’ simulation software ARMD 6.1 and other simulation tools

Measurements and on-site testings are done via our cooperative partners worldwide. In all these cases we join the engineering results and provide a complete customer engineering solution including the CAE and test results. In some cases it makes sense to refine the computer model for a new analysis – well tuned with the measurement results.

Laschet Consulting – your partner to analyze torsional vibrations in complete ship drivelines (main drives, auxiliary & P.T.O. drives) and also to solve and prevent driveline problems in case of “Trouble Shooting” actions (if necessary also with expert reports).