Ten Reasons Why CostFact Improves Cost Management

→ **Professional Information Management:** Integrated administration of all relevant cost information across projects.

→ **Clarity:** High degree of calculation transparency at each level of the breakdown structure.

→ **Error Avoidance:** No errors due to incorrect links, which is typical of spreadsheet calculations.

→ **Efficiency & Quality:** Cost estimates based on existing calculations allow for the generation of reliable quotes very quickly.

→ **Technology:** Incorporation of technical parameters for cost prognoses and project comparisons.

→ **Input Logging:** Automatically generated cost history that documents all single cost inputs and cost changes.

→ **Consistency & Transparency:** Standardization of costing processes and methods ensures consistency and transparency for the ships calculated.

→ **Continuity:** Continuous cost planning and controlling accompany the design and production process through the entire life cycle.

→ **Easy Handling:** Due to the gradual function design, new users can also start the basic calculation immediately.

→ **Trouble-Free Integration:** Easy integration of CostFact into the existing system landscape.

The Use of CostFact Leads to:

→ Improved efficiency, acceleration and error avoidance in cost planning, analysis and optimization throughout the entire life cycle.

→ Combining engineering know-how and costing experience to estimate the real costs of new vessels and generate reliable quotes very quickly.

→ Consistency throughout the entire proposal and a calculation process that ensures transparency and comprehensibility for the ships calculated.

Costing is performed in the vessel's breakdown structure. Besides costs and labour hours, technical parameters and specifications are integrated, enabling project comparisons and the reuse of project information.

COST MANAGEMENT IN SHIPBUILDING

Planning, Analysing and Controlling Product Costs in All Phases of Shipbuilding
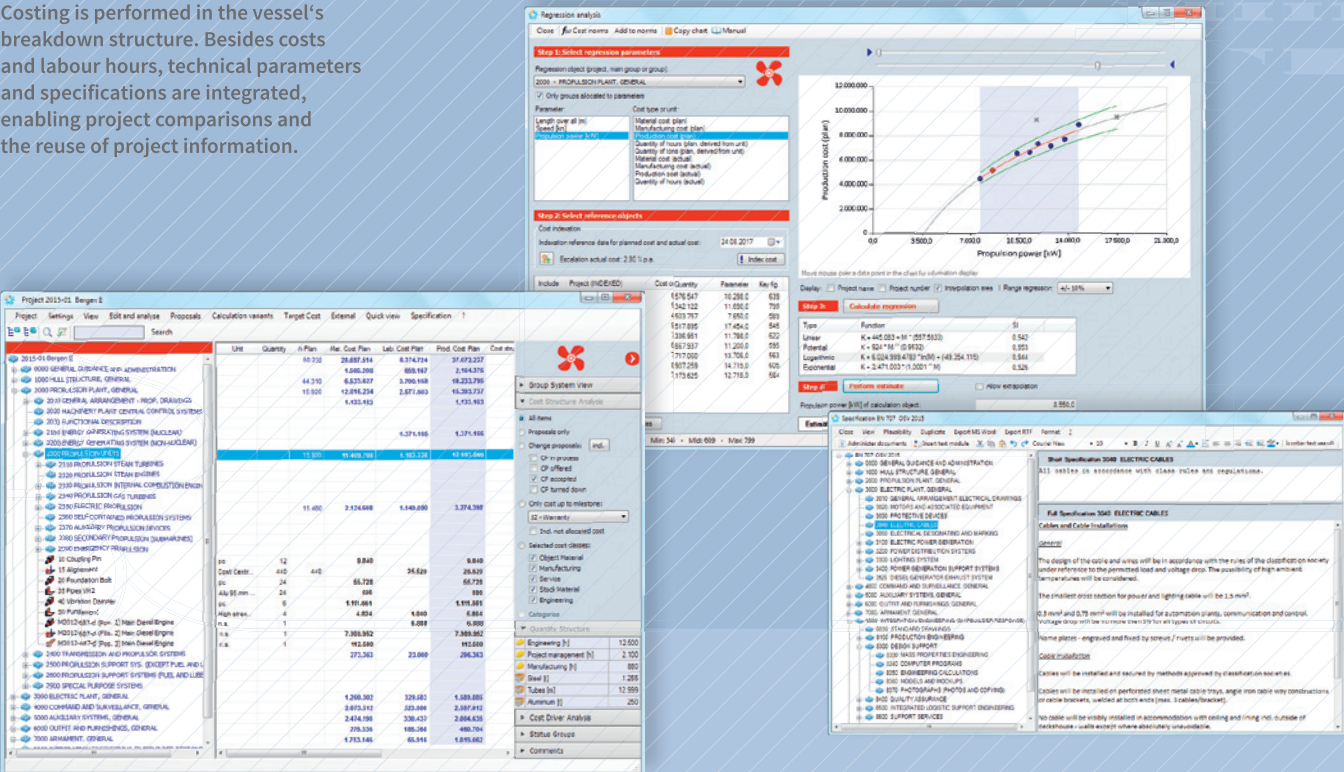
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CostFact improves cost management.
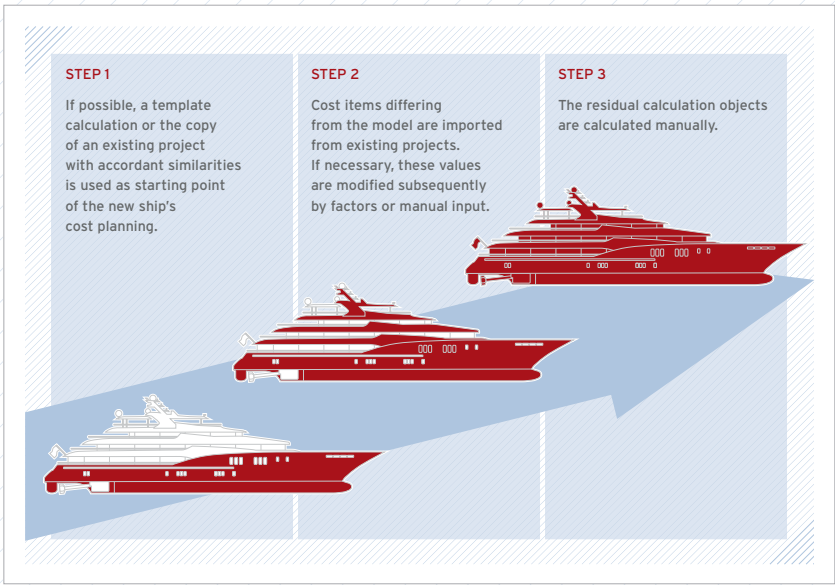
![costfact logo] Cost Management in Shipbuilding
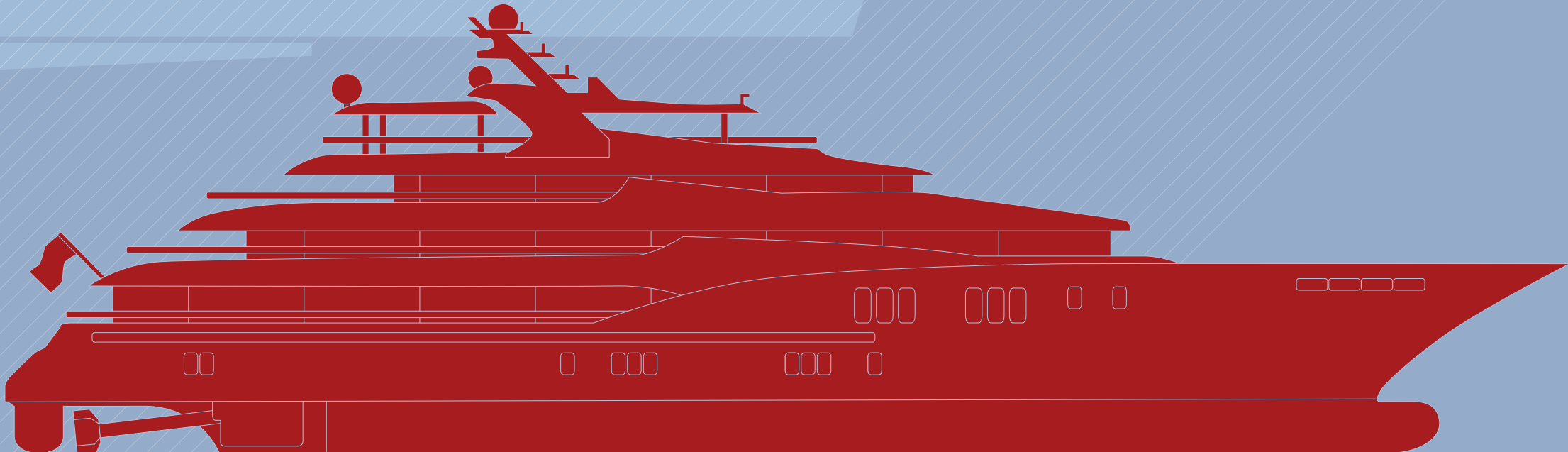
Efficient Cost Planning

Cost Management starts with the proposal and bidding process. CostFact is the number one in maritime specialized costing software and supports cost planning and cost controlling throughout all ship-building phases. It is developed in close cooperation with several of the world's leading shipyards, which means that a number of best-practice methods have been incorporated into the system. The multi-user capability of this database-supported and globally usable application enables the users to work on a calculation simultaneously, while all inputs are documented automatically.

CostFact's 3-Step-Procedure combines top-down with bottom-up costing approaches. The reuse of cost information from previous projects

STEP 1
If possible, a template calculation or the copy of an existing project with accordant similarities is used as starting point of the new ship's cost planning.

STEP 2
Cost items differing from the model are imported from existing projects. If necessary, these values are modified subsequently by factors or manual input.

STEP 3
The residual calculation objects are calculated manually.

enables the user to set up a new calculation in the shortest amount of time. Consistent and clear costing can be carried out at each level of the product breakdown structure, based on the information available.
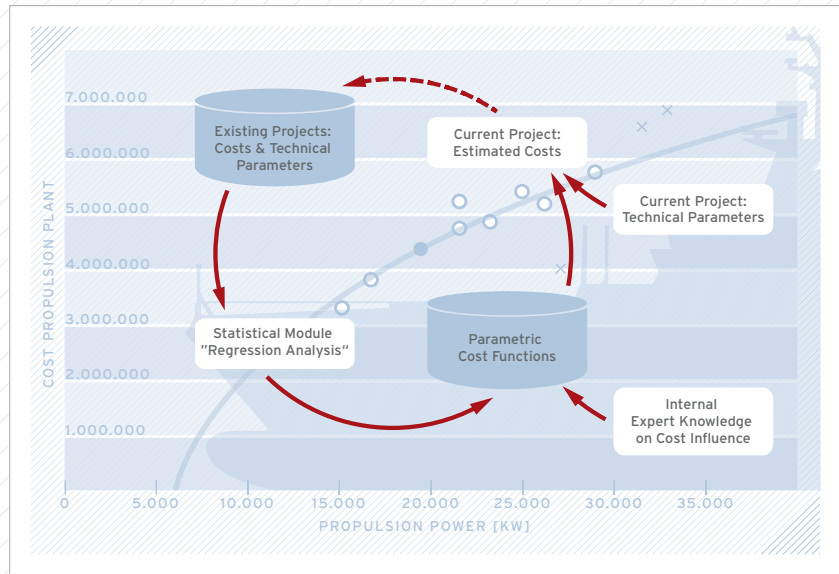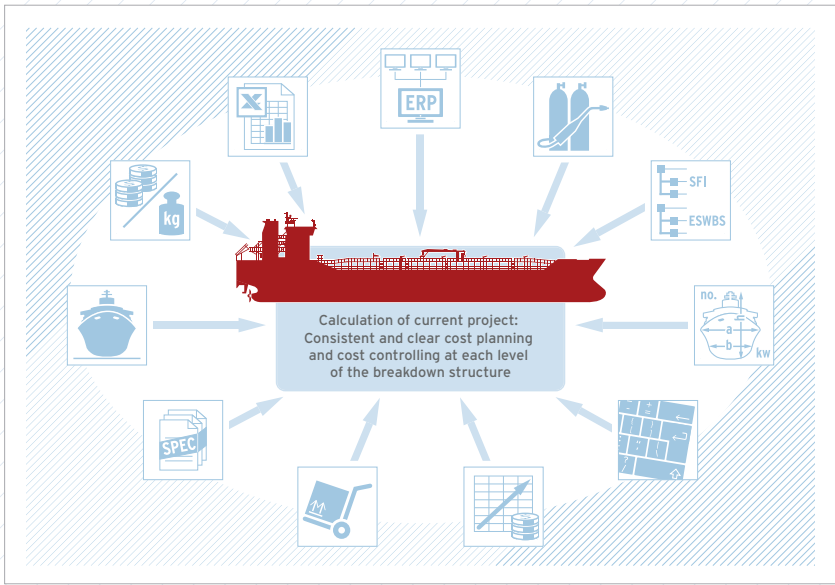
Parametric Cost Estimation with CostFact's regression module is particularly useful in early project phases for cost estimates where detailed information about the ship's components is not yet available. Using actual costs from the ERP system, a calculation accompanying the production process can be performed. Different work breakdown structures can be administered, and calculations are transferred between these structures automatically.

The reuse of cost information from previous projects accelerates costing substantially (upper graphic)

Based on technical parameters, statistical analyses enable reliable cost estimates at the earliest project stages (lower graphic)

Integrated Cost Information

Calculation of current project: Consistent and clear cost planning and cost controlling at each level of the breakdown structure

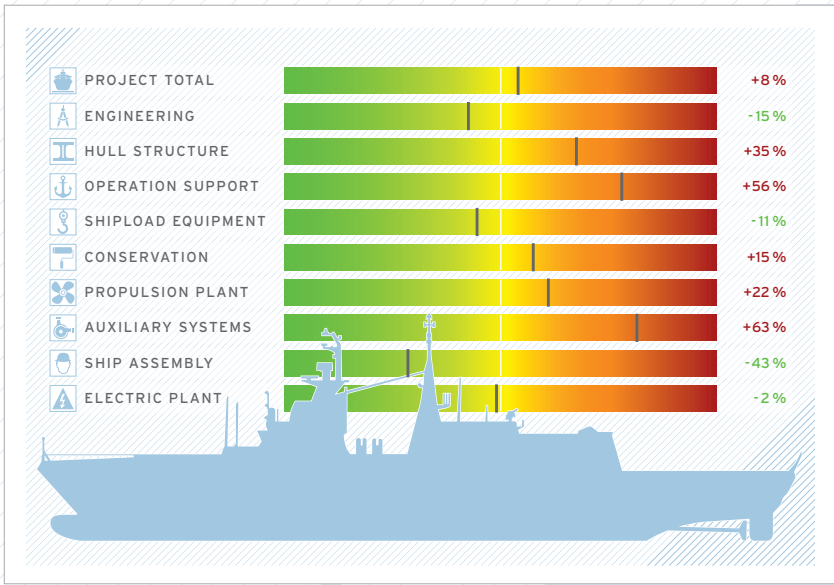CostFact integrates information from various external systems into the project calculation

The Uniform System Base ensures standardised and comparable calculations. CostFact consolidates external information such as technical parameters or suppliers' proposals. Using actual costs from the ERP system, a calculation accompanying the production process can be performed. Different work breakdown structures can be administered, and calculations are transferred between these structures automatically.

Specifications are imported from external documents or set up using text modules. The link to the breakdown structure of the calculation supports costing that corresponds exactly to the specification. Changes after the project starts are tracked in the calculation, and costs for which no specification is defined (and vice versa) can be identified.

Spreadsheet Calculation: Calculations can be imported from spreadsheet programs using CostFact's "copy & paste" function.

ERP System/Materials Management: Trouble-free data exchange between different systems with no need for double entries.

Actual Costs/Consumption: Actual data from other systems can be imported in the background, e.g. for a concurrent calculation.

Alternative Breakdown Structures: Administration of different product breakdown structures with automatic calculation transfers.

Technical Parameters: Incorporation of technical parameters for cost prognoses and project comparisons.

Manual Entries: Inputs for cost items at each level of the breakdown structure based on current available information.

Escalation Factors: Cost updates using factors that are either entered manually, or updated automatically based on time differences.

Supplier Proposals: Proposals from suppliers are administered project related, and can optionally be integrated into the calculation.

Specification: The integration of the specification ensures a ship design that corresponds exactly to the customer's demands.

Previous Projects: All cost information from previous projects is available for reuse in new projects.

Unit Rates: Cost rates for labour and materials enable quick calculation updates, and quantities can be shown in the calculation.

Cost Controlling and Life Cycle Costing

Cost Controlling begins with a cost target for the complete ship and the main groups. Approaches to cost cutting activities can be found by contrasting the costs of a function with its value for the customer. From the beginning, the CostFact risk analysis calculates the extent to which future costs could deviate from the forecast. During the design phase, the cost of changes once the project starts is made clearly evident. Accompanying the production, a concurrent calculation compares planned and actual data.

PROJECT TOTAL	+8 %
ENGINEERING	-15 %
HULL STRUCTURE	+35 %
OPERATION SUPPORT	+56 %
SHIPLOAD EQUIPMENT	-11 %
CONSERVATION	+15 %
PROPULSION PLANT	+22 %
AUXILIARY SYSTEMS	+63 %
SHIP ASSEMBLY	-43 %
ELECTRIC PLANT	-2 %

Life Cycle Costing optimizes the cost of the whole in-service phase. CostFact calculates the project's life cycle cost and displays the results in diagrams. The shipbuilder can use this information to demonstrate that a higher purchase price can lead to savings during operations that exceed the initial additional costs. CostFact also incorporates the uncertainty that inevitably comes along with life cycle prognoses by calculating best- and worst-case scenarios. Sensitivity analysis identifies the critical value of an input parameter that would bring an advantage.

SCENARIOS ANALYSIS: MINIMUM AND MAXIMUM OF CASH VALUES
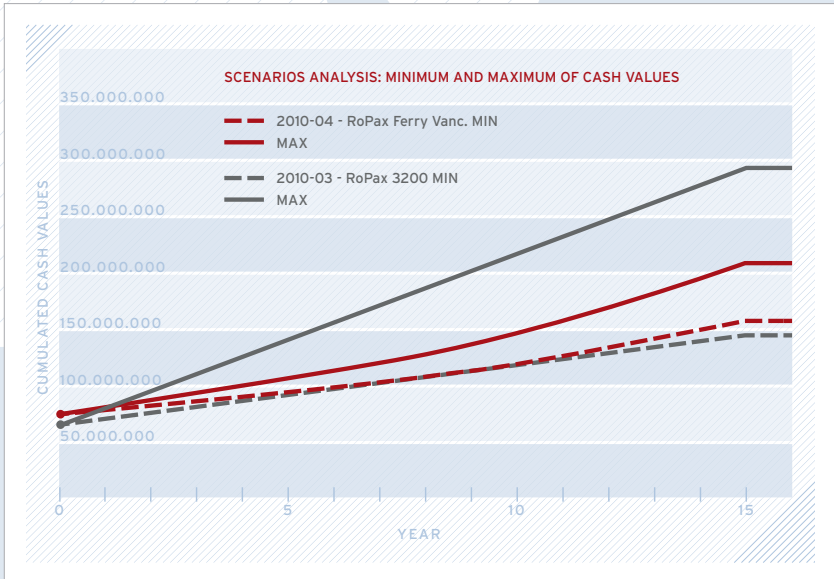
The targeted cost attainment is permanently controlled (upper graphic)

Life Cycle Costing focuses the costs over the ship's entire life – "from the cradle to the grave" (lower graphic)

Further in-depth information on CostFact, including presentations, publications and well-known shipyards using CostFact is available at www.costfact.com.