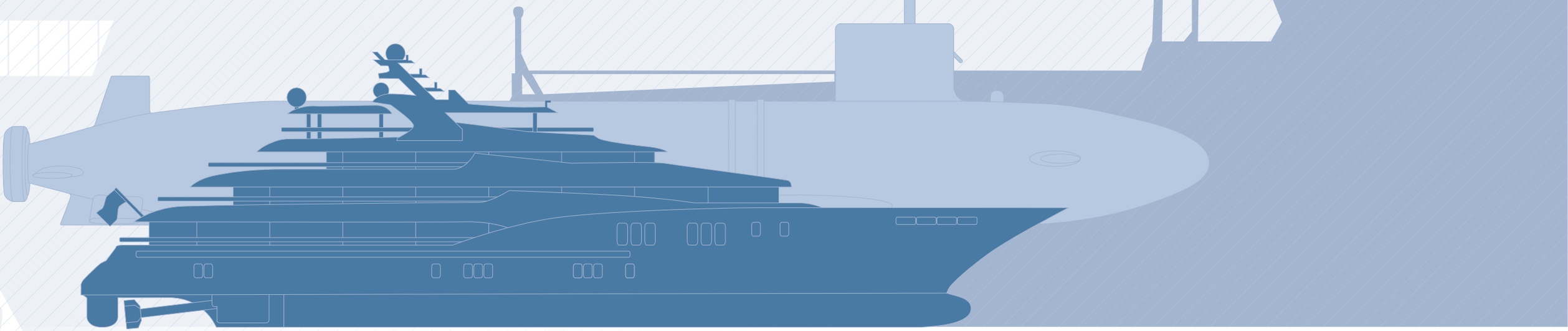
costfact
Cost Management in Shipbuilding

AVEVA
Integration of AVEVA™ Initial Design

CostFact Integration with AVEVA: Utilization of Technical Data for Cost Estimation

- ➔ Predict costs based on design model data
- ➔ Parameterize the cost calculation
- ➔ Include design changes for automatic recalculation



CostFact improves cost management.

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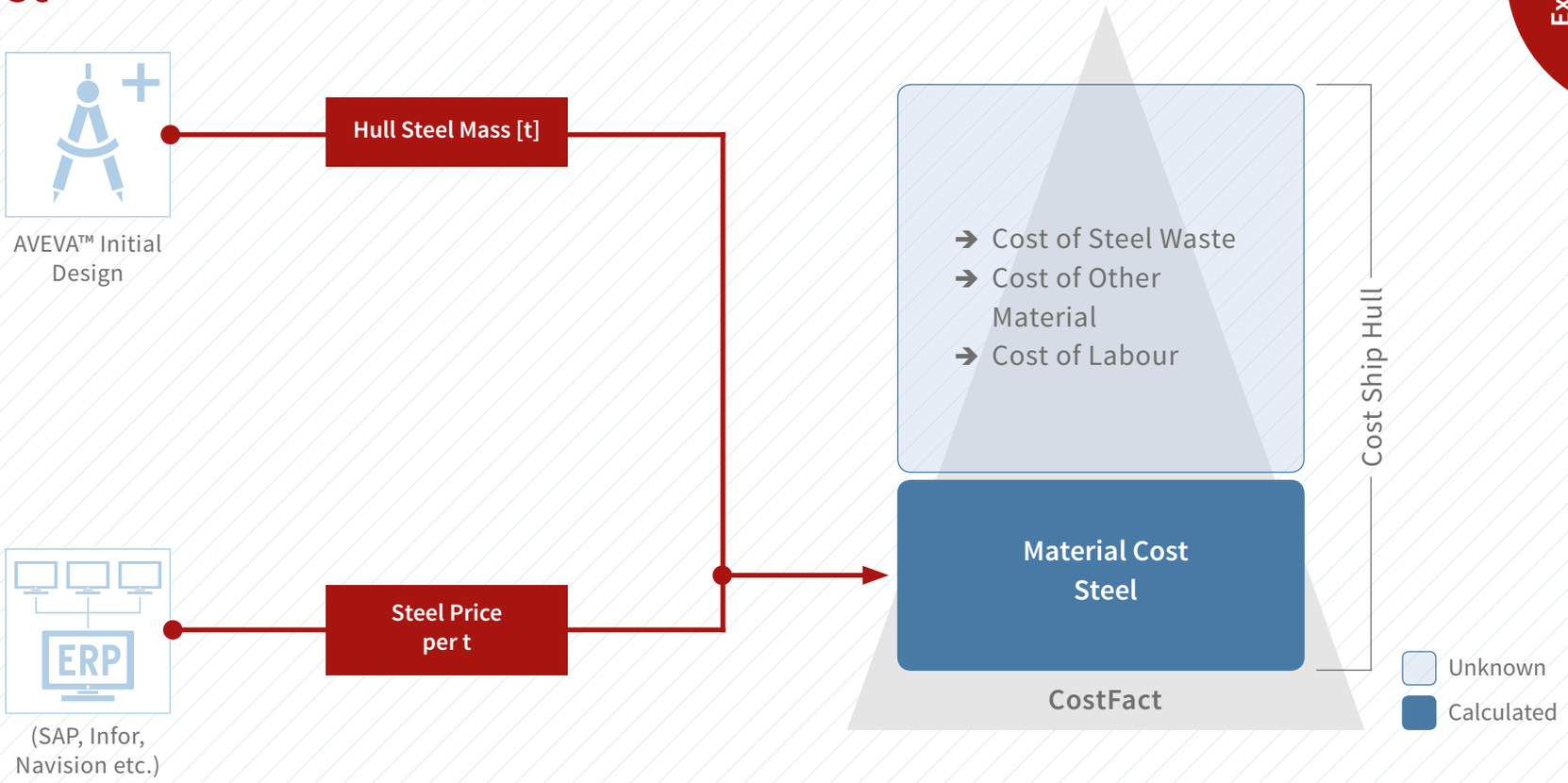
STEP 1 STEP 2 STEP 3

Importing Design Data and Unit Rates to Calculate Direct Material Cost

Example Ship Hull

A part of the direct material cost is calculated by importing the quantity related design data from the CAD System and the corresponding unit rates from the ERP System. The unit rates are assigned automatically by the material codes to the imported quantities.



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STEP 1 STEP 2 STEP 3

Calculation Based on Cost Formulas

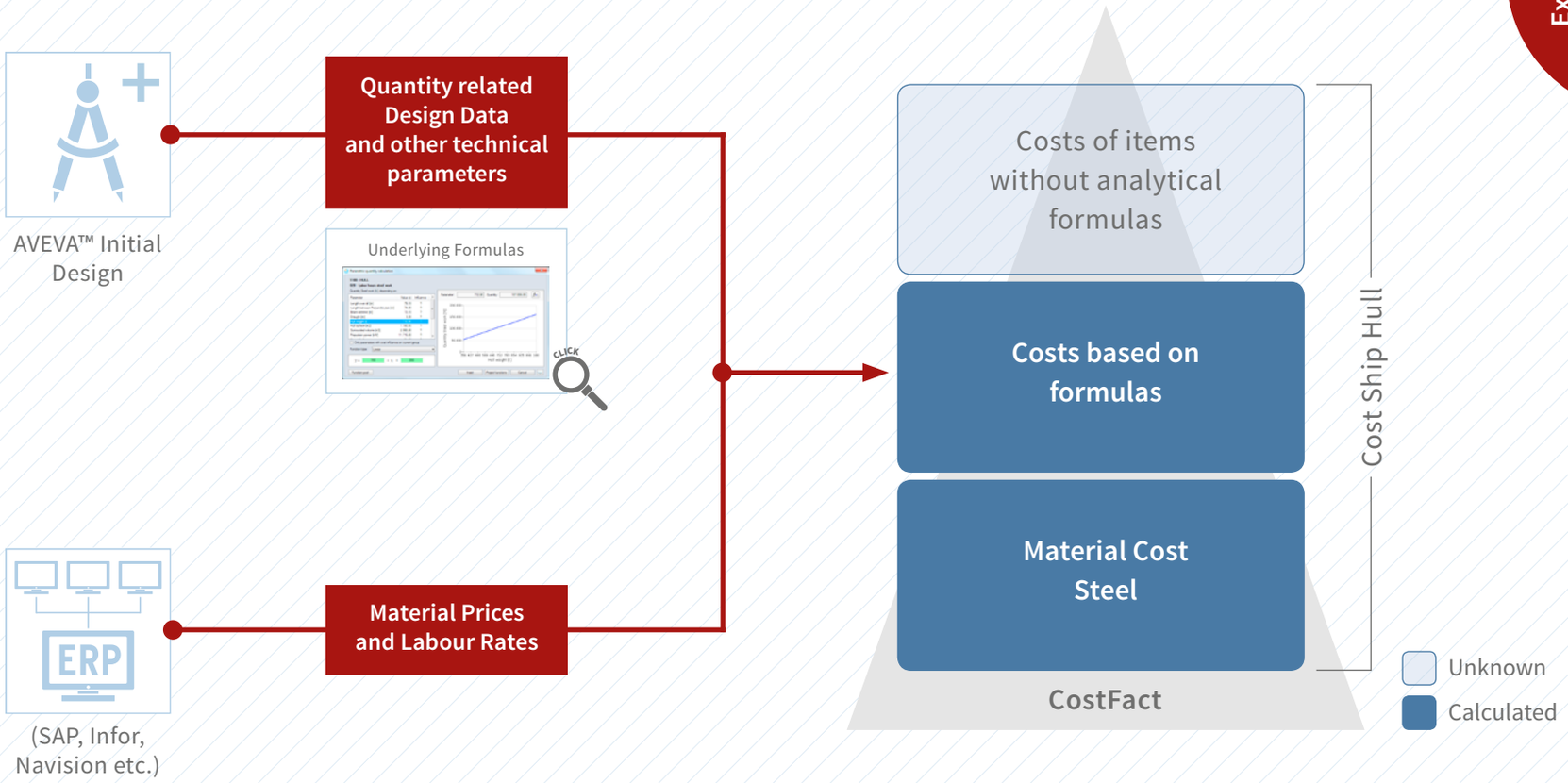
Example Ship Hull

Formulas for the calculation of cost and quantities (labour hours, material) can be derived from a project template or selected from the Function Pool.

Examples of Formulas:

- ➔ Percentage steel waste
- ➔ Number of labour hours steel work per ton steel

When a technical parameter is applied or changed due to a design revision, all cost items which are calculated based on underlying formulas are calculated automatically.

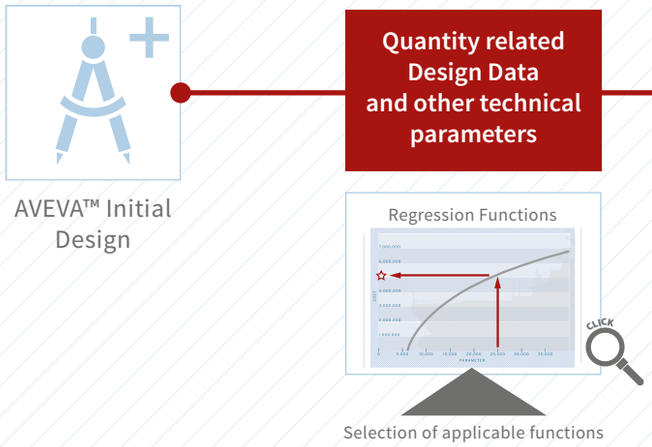


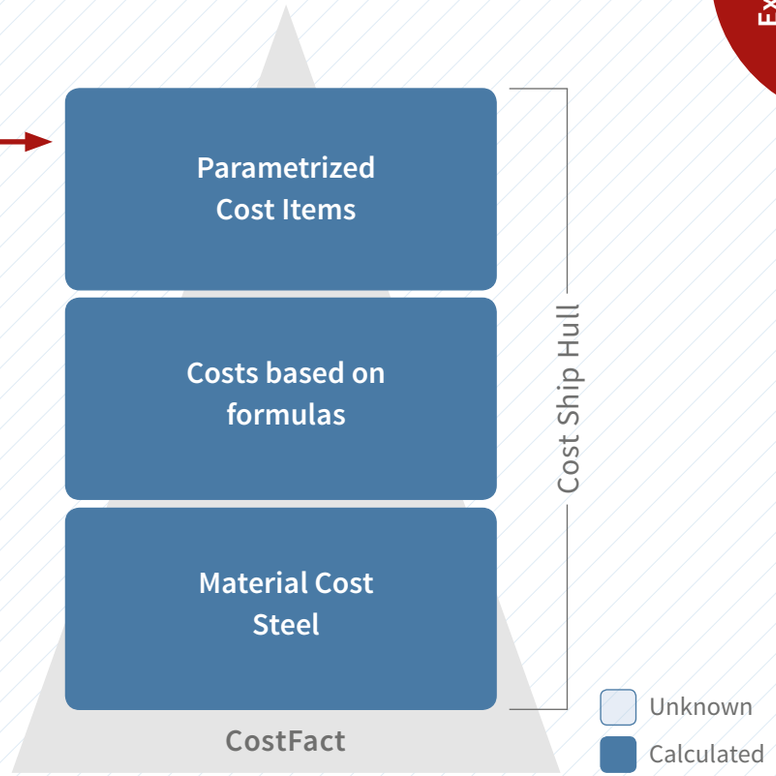
STEP 1 STEP 2 STEP 3

Parametrization to Predict the Cost of All Remaining Items

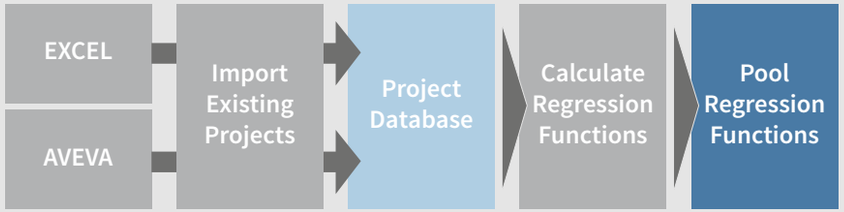
Example Ship Hull

Initially, regression functions are calculated by statistical analyses of concluded calculations. By applying these functions, cost and number of labour hours are estimated, based on the provided design data.



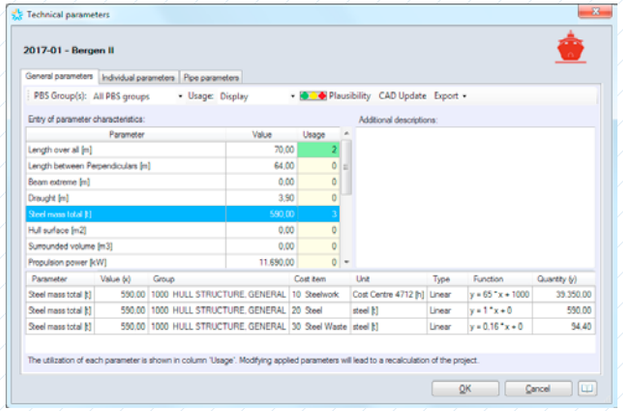


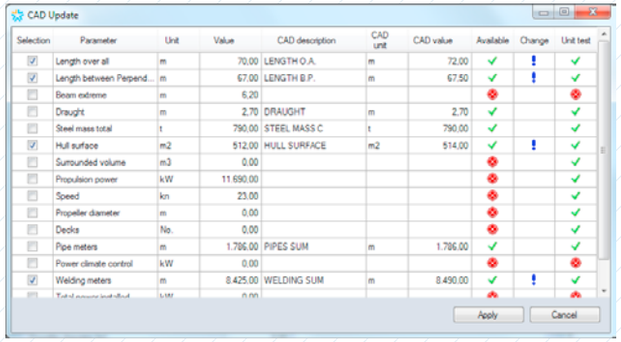
Across projects: Import interfaces and the Regression module allow to derive cost functions and CERs (Cost Estimation Relationships) which are stored centrally and can be used to predict quantities and cost, based on technical parameters.

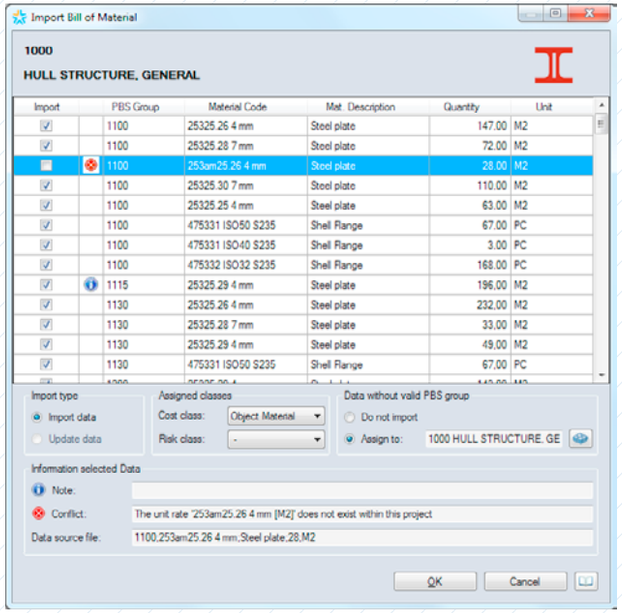


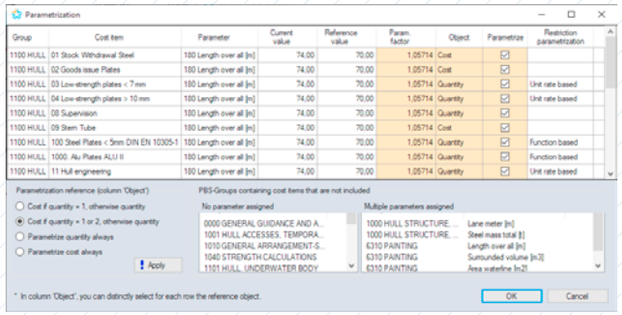
STANDARD CAD INTERFACES

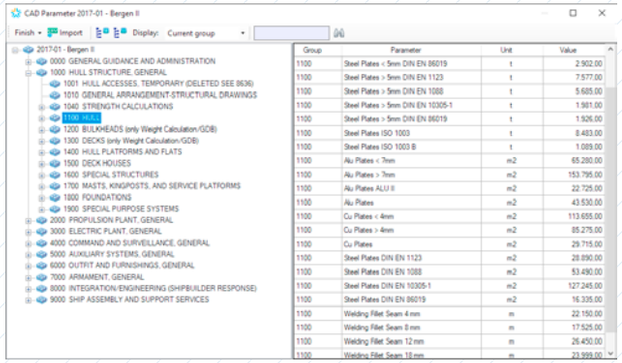
CostFact provides Out-of-the-box interfaces which enable instant import of design data by exchange files in standard format. The backbone of the data exchange is the Product Breakdown Structure (SWBS Code). CostFact's capability to administer alternative structures for the same project, including the automatic transfer of calculation elements from one structure to the other, allows data exchange even if the design structure differs from the calculation structure.







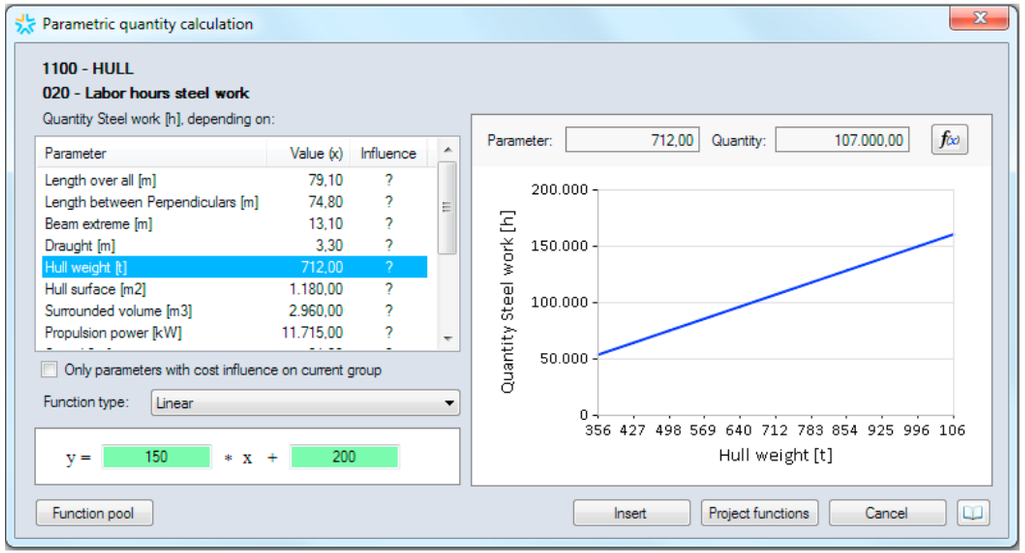




BACK-UP

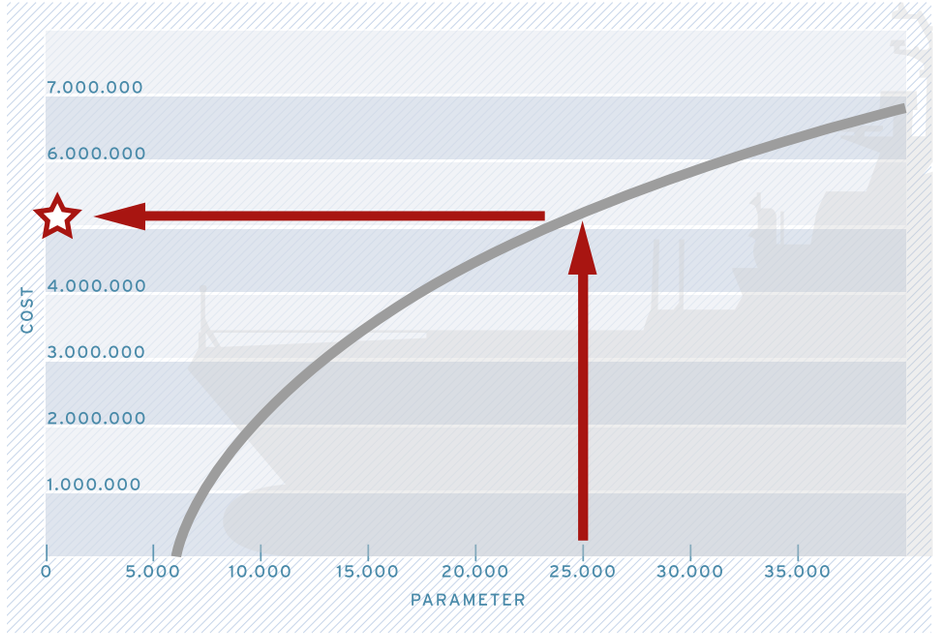
Underlying Formulas / Regression Functions

Underlying Formulas



The calculation is parameterised by applying formulas. The formulas allow to calculate the quantities and cost of items based on technical parameters like design model data.

Regression Functions



Labour hours and total costs of project parts can be predicted by regression functions. These are derived via statistical analyses of previous projects' parameters, provided by the CAD system.