



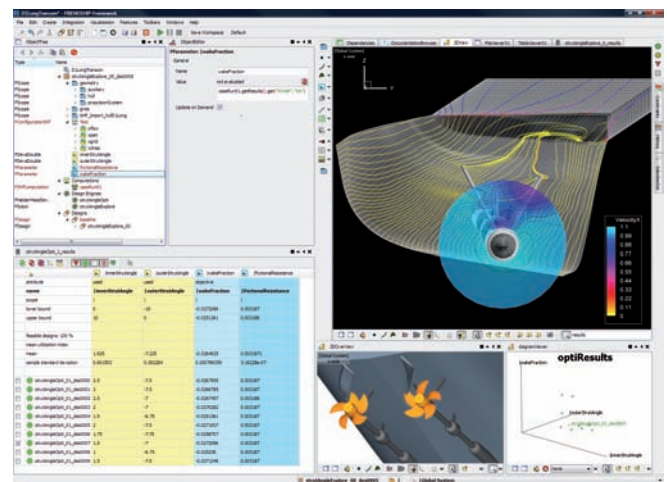
The FRIENDSHIP-Framework

Leading engineering software for excellent products

First-class design is essential for optimal energy-efficient products. This requires excellent surface development from scratch, or from existing parent designs. The *FRIENDSHIP-Framework* is your tool for engineering excellent products meeting highest demands. The worldwide leading software provides a holistic design environment for the Computer Aided Engineering (CAE) of functional surfaces. As the most important components of transport vehicles and turbomachinery, functional surfaces such as pumps, generators, turbochargers, propellers, ship hulls and turbines need an optimal design for optimal performance. Cutting-edge technology is your way to excellent design – the *FRIENDSHIP-Framework* is the leading design software in the marine industry. The simulation-driven design process within the *FRIENDSHIP-Framework* combines Computer Aided Design (CAD) and Computational Fluid Dynamics (CFD). It facilitates, through the tight coupling of geometric modeling and flow simulation, the best achievable optimization of key product properties like fuel consumption and flow rate. This leads you to highly efficient and profitable final products.

Fast, smooth and efficient design process

Outstanding quality is the outcome of combined effort for the most part. Integrating external tools, programs and codes is thus supported by the *FRIENDSHIP-Framework*. It facilitates tight coupling through various integration modes such as XML, generic and COM interface – serving as a genuine integration platform.



A variety of additional operations can be conducted thus, which enhance the design process and, consequently, the product properties. The design process uniquely combines fully and partially geometric modeling, numerical simulation, systematic variation and formal optimization. It offers you first-class technique: best-in-class parametric modeling along with constraint and variant management. This enables you to easily develop form and product families, to quickly compare their physical qualities and to immediately identify the best geometries.

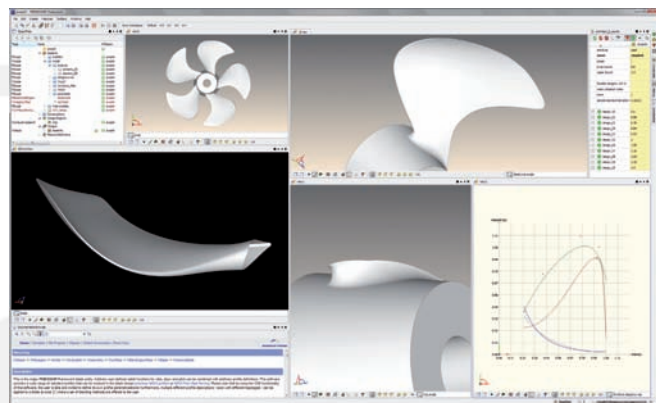
The *FRIENDSHIP-Framework* is designed to help you design in a time saving and systematic manner.

It is the workbench for the designer.

Better design – better products – better performance

Engineering with the *FRIENDSHIP-Framework* means engineering excellent geometries. The software system offers you a full range of applications and features:

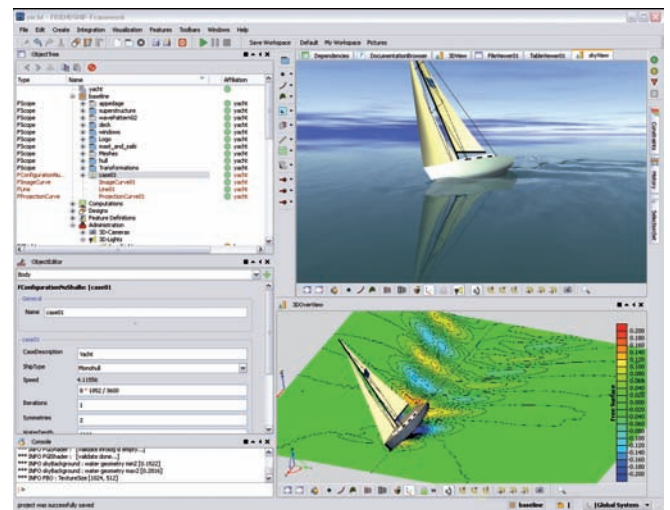
- Advanced image and surface technology
- Extended feature technology
- Fully and partially parametric modeling
- Automated variation and fluid-dynamic optimization
- Comprehensive curve and surface design
- CFD processing
- Full support of imported files, e.g. offsets, panel meshes, IGES files
- On-line documentation including tutorials, examples, background expert knowledge
- Exchange of user expertise through issue tracker
- Full range of related services, support and vocational training



The *FRIENDSHIP-Framework* is applied by design teams of shipyards, consultancies, model basins, turbomachinery manufacturers and research institutes worldwide. Users of FRIENDSHIP SYSTEMS' CAE software solution are leaders in their field, on national or international scale. The best-in-class simulation-driven design software is applied by the leaders in the marine industry and turbomachinery to reinforce product performance, market position and sales.

How you benefit

Engineering excellent products of outstanding geometrical qualities with the *FRIENDSHIP-Framework* is profitable along the whole value-added chain. You achieve a high return on investment – spanning from the design process to the operation of the final product. The engineering process within the *FRIENDSHIP-Framework* is designed to your greatest possible use and benefit, i.e., a time and cost saving process chain, smart technological solutions, easy-to-use mechanisms and a highly comfortable work flow. First-class design takes you a decisive step ahead. Engineering designs meeting future guidelines and regulations makes you competitive and strengthens your market position.



Applying the *FRIENDSHIP-Framework* means arriving at optimal functionality and maximum efficiency in less time and less cost.

The *FRIENDSHIP-Framework*. Better Products. Faster Processes. Higher Profits.

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