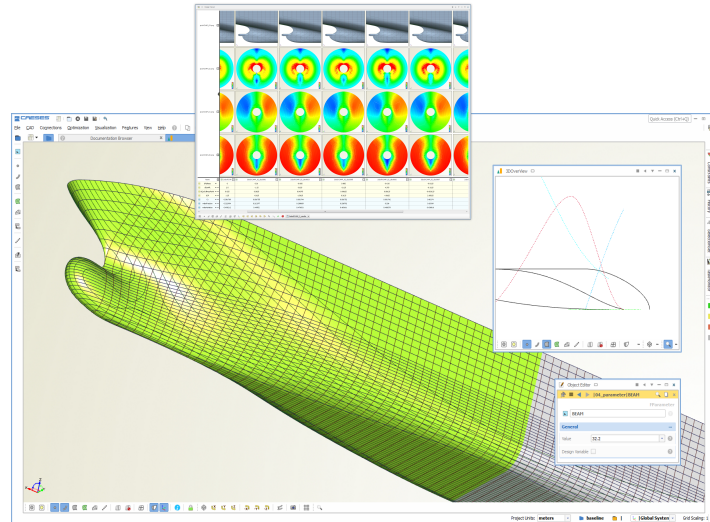


ADD-ON MARITIME

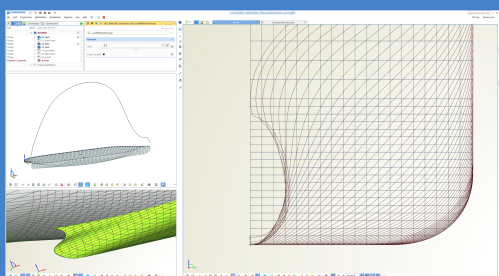
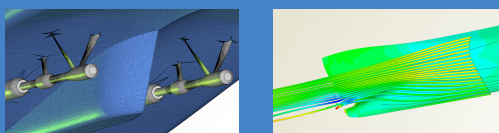
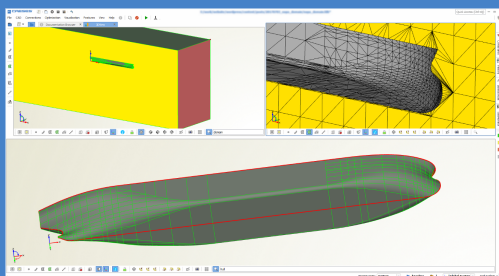
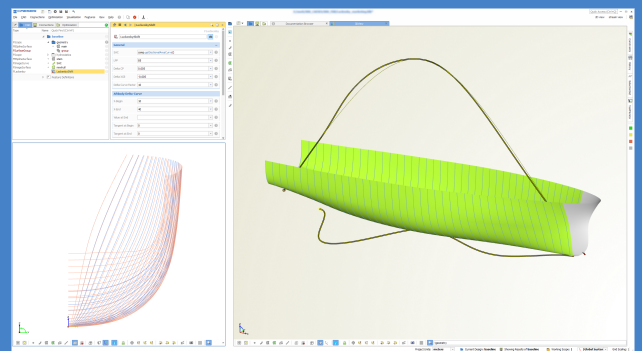
SHIP DESIGN AND OPTIMIZATION CAPABILITIES FOR NAVAL ARCHITECTS AND MARITIME CFD EXPERTS

With CAESES® you target best-in-class hull form hydrodynamics, minimum wave resistance and optimized wake field quality. Create efficient parametric ship hull forms whose main purpose is to conduct automated shape optimization with CFD. Use dedicated transformation techniques and specialized visualization capabilities to engineer faster - no matter if you design yachts, supply vessels, tankers or container ships.



FAST AND INTUITIVE HULL FORM OPTIMIZATION

- * Generalized Lackenby transformation to control the center of buoyancy and the displacement of a ship hull form
- * Vary the shape parameters manually or automatically
- * Combine shift transformations (sectional x-shifts) with free-form deformations and fully parametric modeling
- * Hydrostatic calculations for stability analysis and optimization
- * Handling of typical constraints including hard points, containers in hold, spaces etc.



AUTOMATE YOUR MESHING AND CFD ANALYSIS TOOLS

- * Integrate and automate any 3rd-party meshing and CFD tool
- * Single-click flow domain creation (NURBS, STL) from hull geometries
- * Healing capabilities for imported hull forms, e.g. from NAPA
- * Support for panel data
- * Run studies using the integrated shape optimization strategies
- * Optimize hull form, propellers (add-on available), appendages and energy-saving devices for more comprehensive investigations
- * Interactive 3D post-processing and variant comparison
- * Special add-on for the CFD package SHIPFLOW available

2D SECTION VISUALIZATION AND GENERATION

- * Visualize hull cross sections (buttock lines, waterlines, stations)
- * Generate 2D line drawings
- * Create discrete 2D sections and NURBS curves, e.g. from given STL data
- * Offset groups to combine, process and organize 2D data