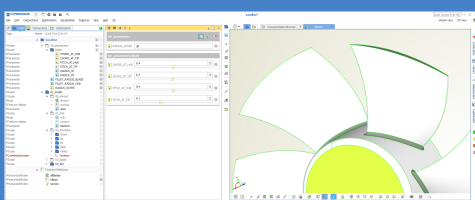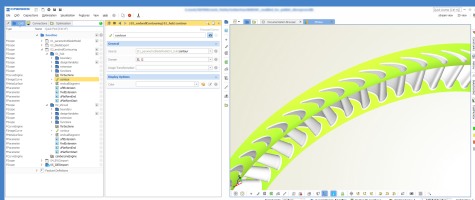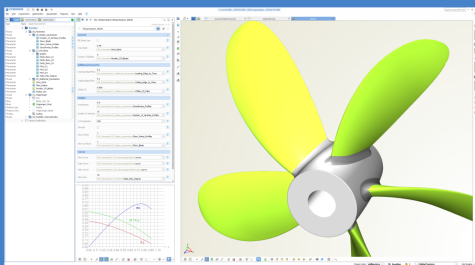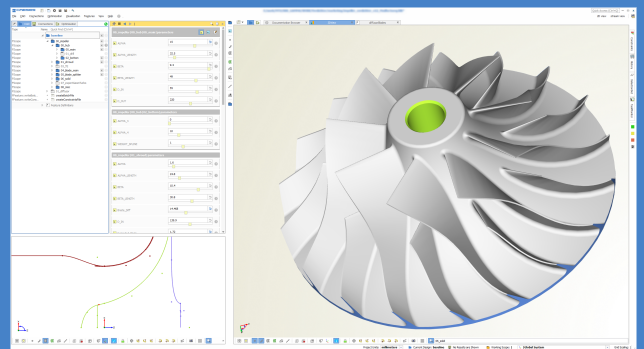# CAESES®

ADD-ON TURBO

POWERFUL BLADE DESIGN
FOR TURBOMACHINERY AND PROPELLER APPLICATIONS

Add comprehensive blade design capabilities to CAESES®
that are made for automated workflows such as design
explorations and shape optimization with CFD.
The flexible blade modeling capabilities allow you to
investigate even non-conventional designs. Any detail and
innovative idea can be built into the geometry model.
As a result, CAESES® is not a black-box tool but rather
your highly customized blade modeling environment.
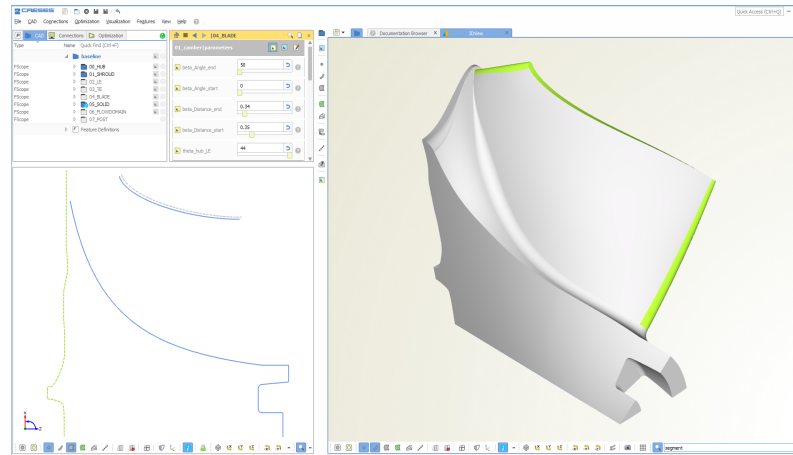
GEOMETRY MODELING WITH MAXIMUM SHAPE CONTROL

* Define any parametric 2D profile, or readily use NACA profiles
* Create variable 2D meridional contours with flexible controls
* Create function distributions for spanwise blade control
* Create custom camber and thickness distributions
* Use the built-in generic blade object for marine propellers
* Model, vary and automatically fit radii-based fillets
* Optimize related features (endwall contouring, scallops, etc.)
* Optimize blade models along with CAESES® volute setups
* Vary all blade parameters manually or automatically

INTEGRATE YOUR TOOLS AND AUTOMATE

* Integrate all your meshing and analysis tools
* Alternatively, run CAESES® in batch mode as a blade CAD engine
* Create periodic domains for CFD and structural analysis
* Use a variety of standard and blade-related export formats
* Write own export routines for proprietary export formats
* Linux version available for large-scale optimizations on HPC clusters
* Run studies with the integrated sampling & optimization strategies

EXAMPLE APPLICATIONS

* Compressor blades (radial, axial or mixed)
* Turbines (radial, axial)
* Marine and aerospace propellers
* Wind turbine blades
* Fans and blowers
* Mixers