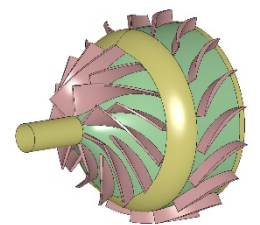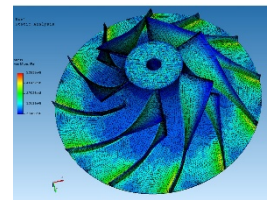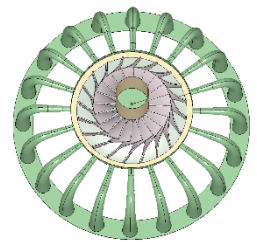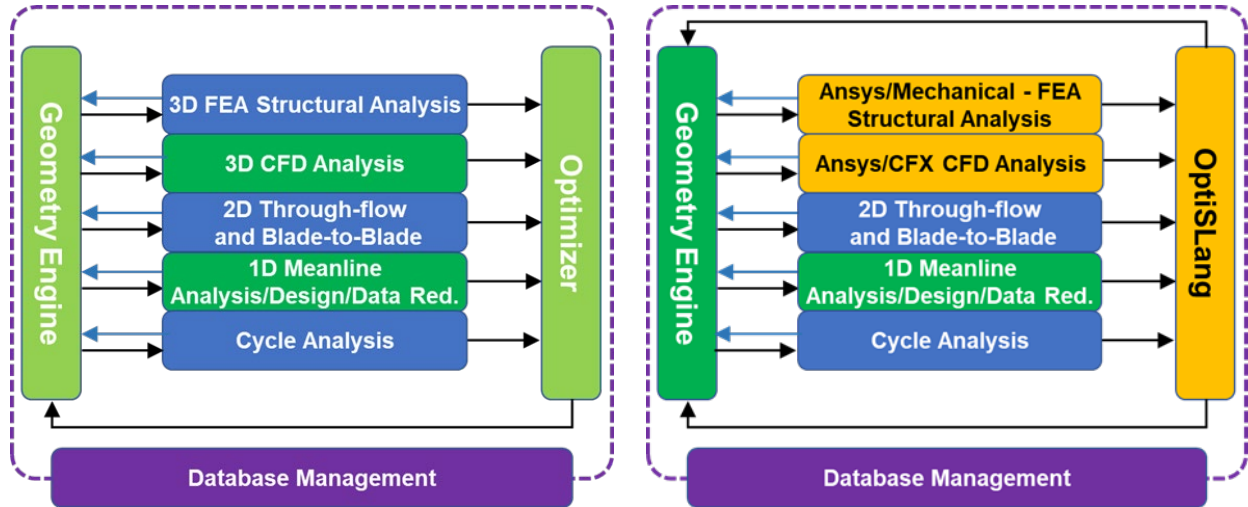# TurboTides for Compressor Design

TurboTides for Compressors contains all the design, analysis and optimization tools a compressor designer needs in a single seamless workflow. Includes Radial, Mixed-flow and Axial compressors

- Modern seamless workflow (GUI)
- Cycle analysis supports the design, analysis, and optimization of all common thermodynamic cycles and configurations
- 1D meanline with advanced Data Reduction for model calibration
    - Design complete stages with additional components such as vaned and vaneless diffusers, stators, volutes, and additional stages.
- 2D Throughflow and Blade to Blade CFD Solvers
- Detailed 3D geometry generation
- 3D blade shaping operations
- Advanced volute shaping and editing
- Integrated 3D CFD
    - Automatic structured meshing mesh and simulation setup
    - "One-click" setup
- Built-in optimization
- Database for storing and re-using legacy designs for use in future designs
- Advanced CAD Import/Export (component and stage level)
- 3D Structural Finite Element Analysis (FEA)
- Support linear and non-linear static analysis, thermal analysis and modal analysis.
- Automatic pre-processing: Automatic mesh generation and automatic setup of constraints, loads, and CFD loads
- Full post-processing support: text report, Campbell/ interference diagram, contour and deformation plots, etc.
- Integration for seamless export to ANSYS CFX (through Turbo Grid) or ANSYS Mechanical. TurboTides is an authorized ANSYS Software Solutions Partner
- No extra costs for common functions such as LAN floating, multi-stage, CAD Import/Export, additional processors, etc.
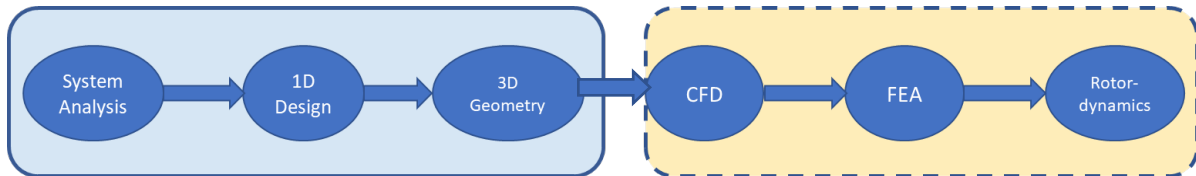
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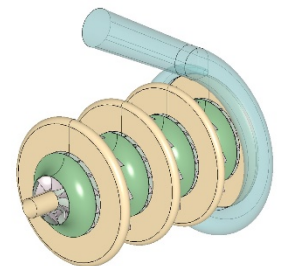
Ansys Solution and Development Partner

TurboTides Design   Ansys Simulation

About our Founder and President

Dr. Xuwen Qiu

Dr. Qiu earned his Ph.D. from Syracuse University in Mechanical Engineering. For more than 25 years, Dr. Qiu has dedicated himself to developing new turbomachinery technologies, from compressor and turbine modeling to an integrated turbomachinery design system (TurboTides). Dr. Qiu is the primary author of the unified slip factor model for axial and radial impellers, the impeller recirculation loss model and innovative data reduction scheme that generates a predictive, calibrated 1D meanline model.

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