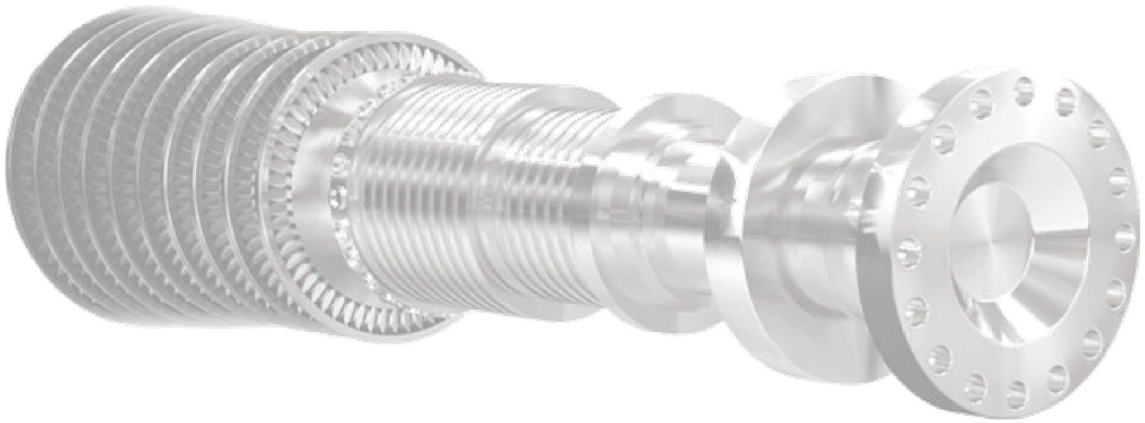
AxSTREAM®

SoftInWay incorporated



Rotor Bearing System Design and Analysis

The AxSTREAM® Advantage

Purchase options are individually tailored for each customer.

Extremely cost-competitive compared to similar software packages; protected by ESS-G©, SoftInWay's price match guarantee.

Integrated solution from aero to rotordynamics.

Automation of analyses and workflow through batch processing and AxSTREAM ION™ for process integration and design optimization.

Extensive technical support by more than 80 engineers.

Streamlined user-interface makes learning a nonissue.

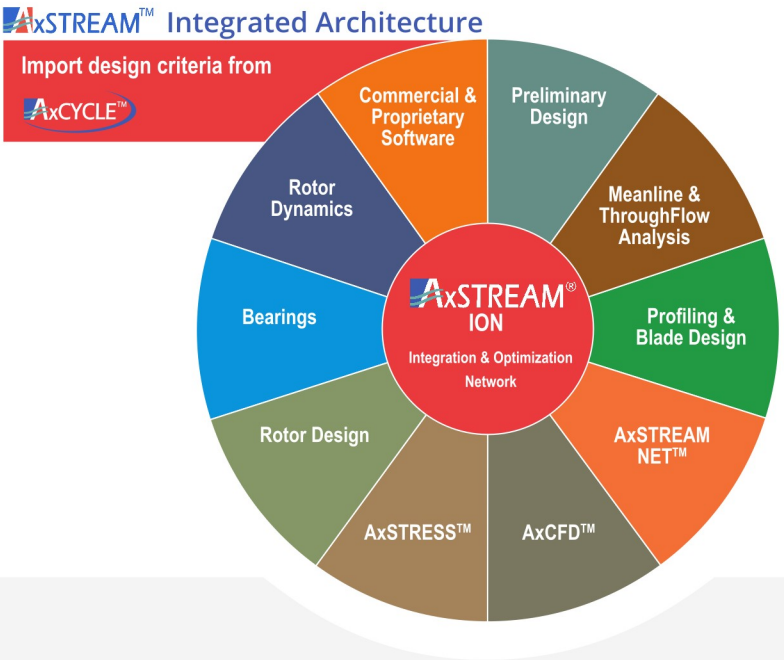
Constant updates are being added, and new features can also be added upon request.

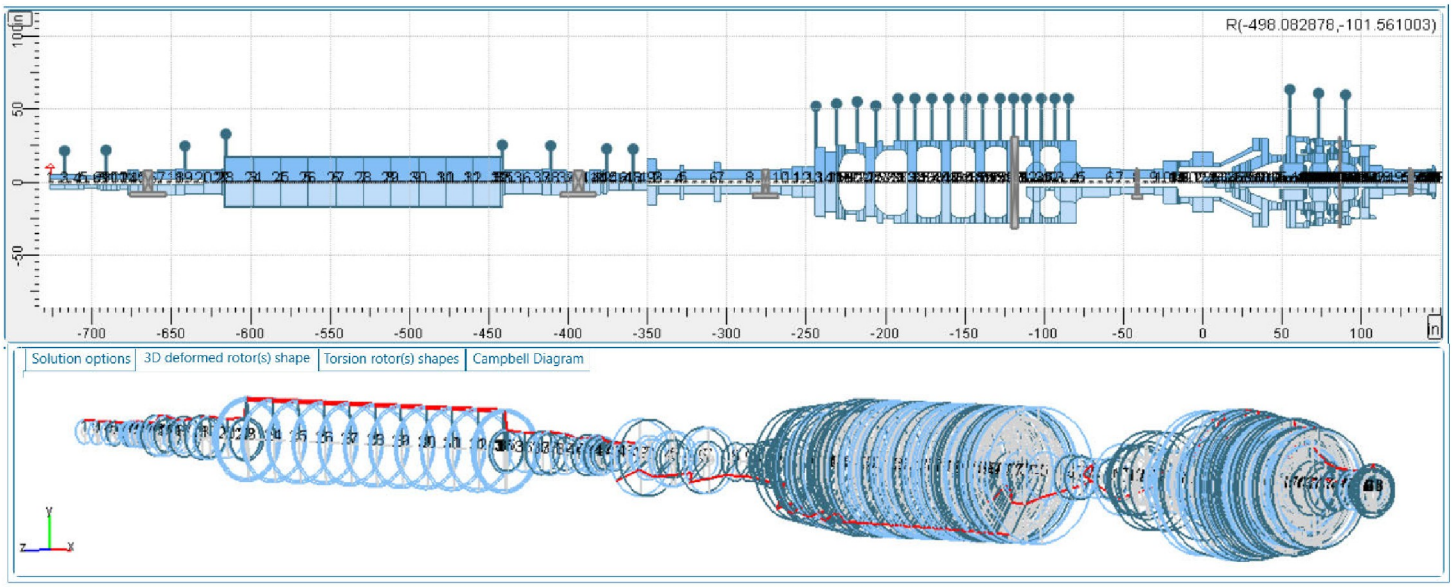
Software Solutions | Consulting Services

Training and Technology Transfer

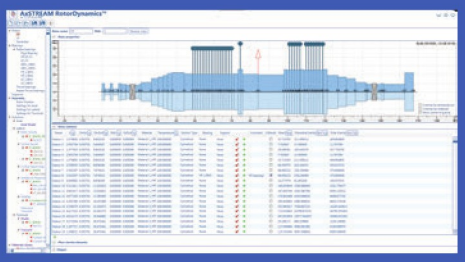
Turbomachinery Mastered

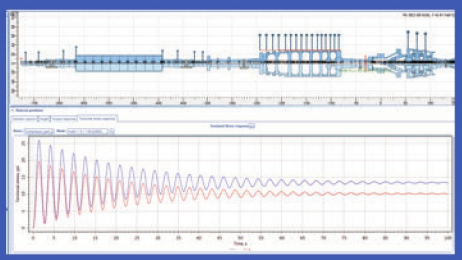
SoftInWay, Inc. is a global R&D engineering company specializing in the development of efficient turbomachinery components and systems by offering its industry leading software platform, AxSTREAM® for rotating machinery design, redesign, analysis, and optimization, as well as engineering services and educational courses.

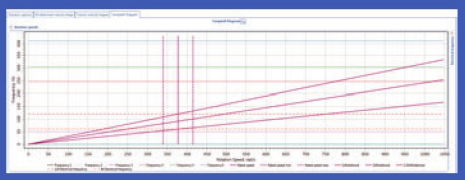


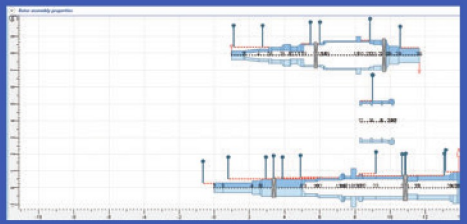


Packages









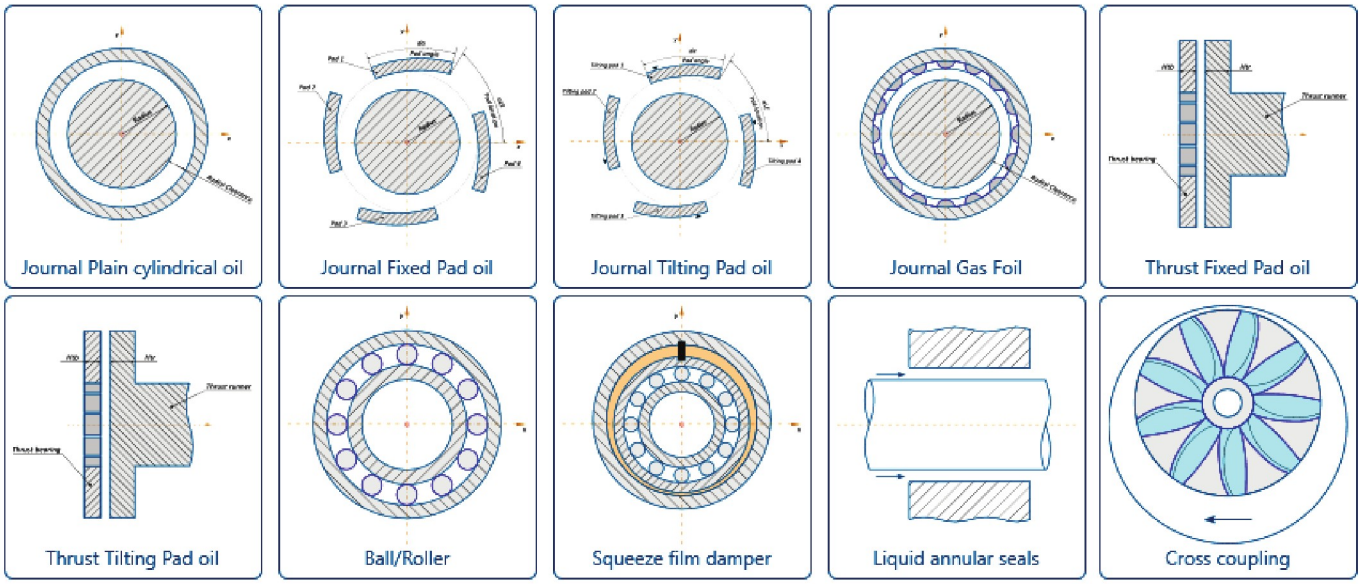
AxSTREAM RotorDynamics™

AxSTREAM RotorDynamics™ is a finite element based program that allows users to perform the full scope of rotor dynamics analyses for any rotating machine (turbine, compressor, pump, electrical, reciprocating machines, machines with active magnetic bearings, and many others).

AxSTREAM RotorDynamics™ is capable of linear and nonlinear analyses, as well as lateral, torsional, and axial analyses. Multi-shaft and multi-branch rotor systems with complex support structures are easily modeled and simulated, generating results almost instantly once a model is built.

All pre and postprocessing capabilities were developed with industrial standards (API, ISO) in mind, so that projects may be completed quickly with minimal effort and help engineers to ensure their rotor designs and behaviors meet industry standards.

- Modeling
  - Copy/Paste parameter tables
  - Single and multi-rotor systems
  - Couplings and gearboxes
  - Apply static/dynamic/inertia forces in any direction
  - Account for journal/thrust bearing characteristics
  - Structural supports like casings, springs, and other components
  - Rotor material library and temperature-dependent properties
  - Rotor misalignments
  - Rotor buildup, and rotor-in-rotor specific factors can be accounted for
- Simulations
  - Lateral: static deflection and bearing reactions, critical speed, unbalance response, stability, harmonic response, time-transient, and waterfall analyses
  - Torsional: modal, Campbell diagram, transient analyses, torsional harmonic analysis for reciprocating machines
  - Axial: modal analysis
- Post-processing
  - Charts and characteristics presented for API and ISO standards
  - Machine-specific analysis
  - Report generation, batch mode, optimization, and results export



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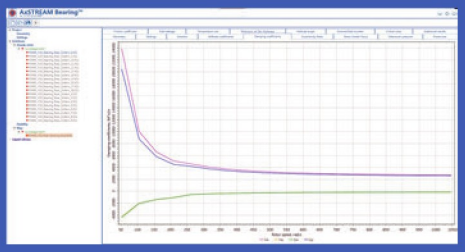
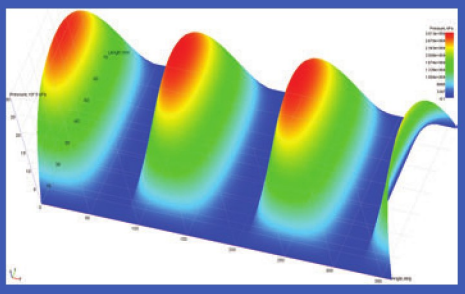
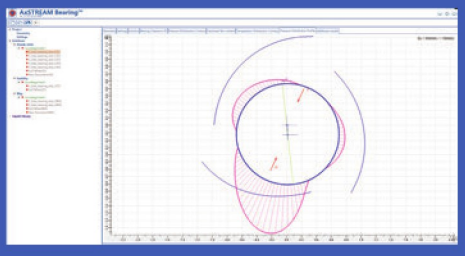
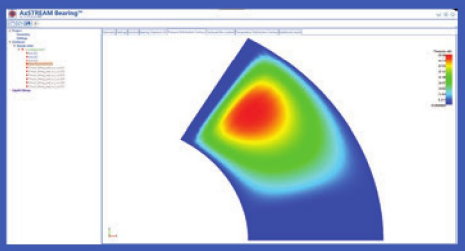






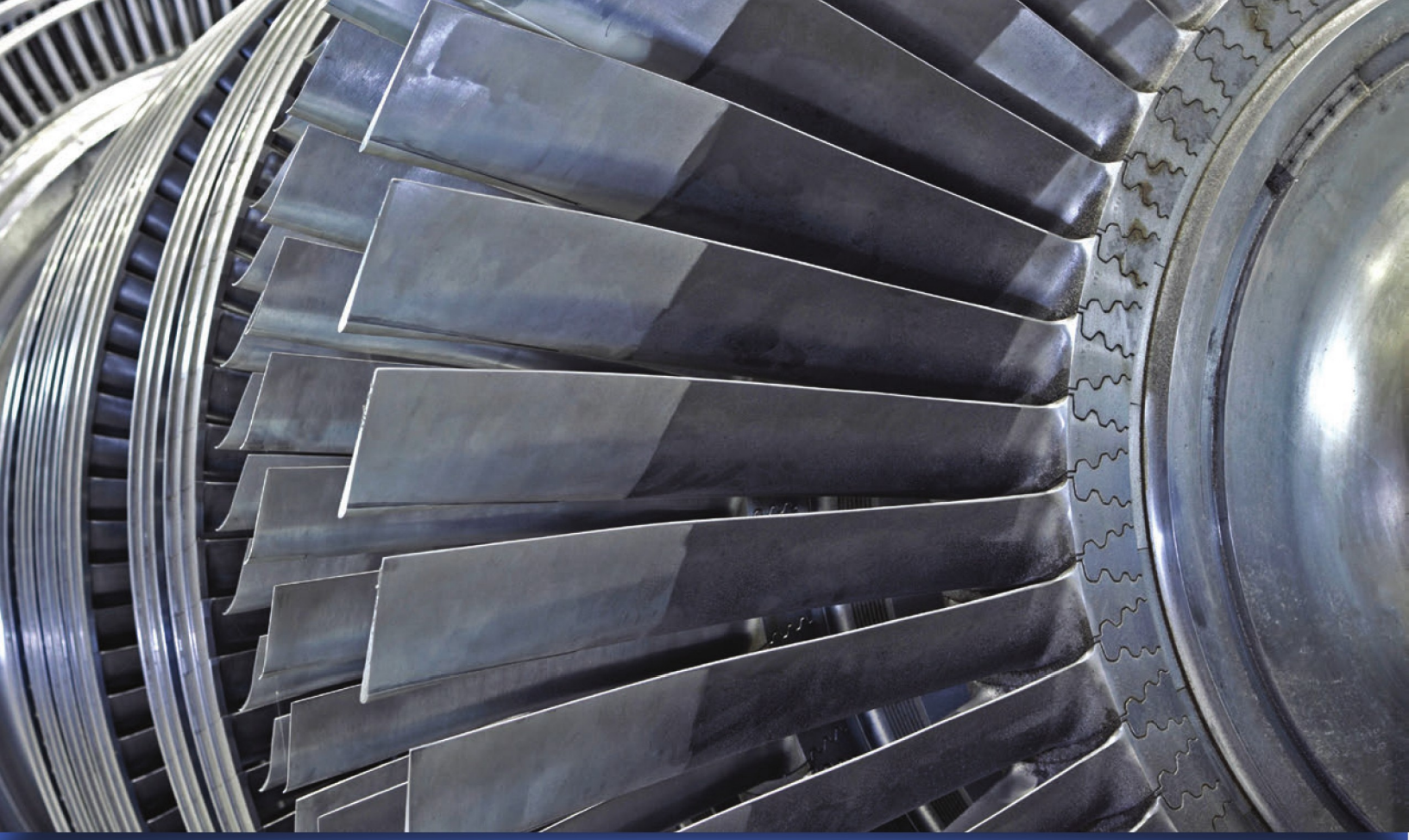


AxSTREAM Bearing™

AxSTREAM Bearing™ can simulate practically any type of bearing utilized in turbomachinery and rotating equipment. Users can determine the hydrodynamic, mechanical, and performance characteristics for thrust and journal bearings. Seals, squeeze film dampers and other auxiliary components that influence the rotor dynamic response can also be simulated within AxSTREAM Bearing™.

The user interface was developed to provide an easy way to work with complicated bearing designs, and projects where multiple calculations must be done (rotor-bearing systems analysis projects, sensitivity studies, and design optimizations).

- Fluid & Gas Film Bearing Geometry
  - Journal: plain, multi-groove, preloaded and offset, elliptical, tilting pad, pressure dam, herringbone, multi-recess, bump foil, complicated/custom geometry
  - Thrust: tilting pad, fixed pad
- Rolling Element Bearing Geometry
  - Deep groove, angular contact, self-aligning ball
  - Straight, tapered, spherical roller bearings
- Auxiliary components
  - Seals (labyrinth, liquid annular)
  - Squeeze film dampers
  - Aerodynamic cross-coupling coefficients calculation
- Simulations
  - Bearing design (preliminary parameters selection)
  - Steady-state analysis (simplified and detailed)
  - Stability analysis
  - Bearing map
- Post Processing
  - 2D / 3D graphics for calculated results
  - Charts for hydrodynamic/mechanical bearing characteristics
  - Report generation and results export
  - Run calculations in batch mode for reduced project and iteration times



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