# ALTAIR FOR ENERGY

altair.com/energy

The global demand for energy continues to increase and the diversity of sources is growing. We are helping customers explore sustainable generation, achieve efficient distribution, maintain reliable power grids, and transform the market with Internet of Things (IoT). Whether in oil and gas, coal, renewable energy, nuclear power, or distribution, our customers use Altair to simulate everything from geomechanics to composite wind turbine blades and analyze structural safety to network loads.

OPTIMIZE ENERGY PRODUCTION AND DISTRIBUTION

Altair Panopticon™ enables operators to process, monitor, analyze, and visualize the massive amounts of data streaming in from sensors and other devices in real time, so network loads can be distributed based on real-time feedback from the grid. It combines real-time streams with historical data, including time-series data stored in high-performance columnar databases, to make on-the-fly comparisons with previous activity and develop a comprehensive view of operations.
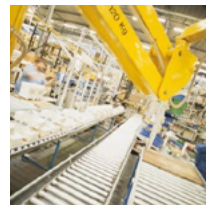

Socomec used Altair software to implement increasingly complex, sophisticated power startups that would enable their products and expert services

INCREASE NETWORK EFFICIENCY

Altair Flux™ is used by power engineers to design their networks from generation to consumer. The advanced electromagnetic, electric, and thermal simulation capabilities allow them to optimize the energy efficiency of power generation and energy storage systems. It provides valuable insights for all transmission and distribution components, including power transformers, cables, electric switchboards, switchgears, contactors, relays, sensors, and switches.

## ENSURE RELIABILITY AND ROBUSTNESS WITH MULTIPHYSICS

Altair's structural simulation software portfolio offers industry-leading engineering analysis and optimization tools for simulation-driven design concepts, detailed virtual product validation, and everything in between. Altair solvers can be coupled to model the energy industry's multi-physics problems. Our high-performance computing and cloud technologies ensure customers can keep up with the pace of today's innovation, and scale to support the biggest challenges.
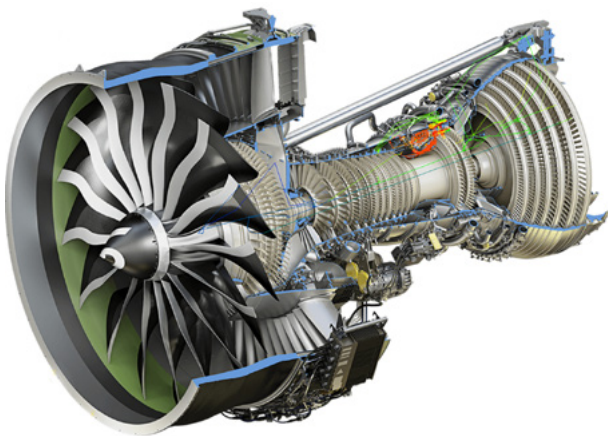
GE Aviation and Altair continue developing Flow Simulator together, with even more advanced simulation technologies and design tools that will continue to expand its capabilities for a broader base of users.

STREAMLINE AERODYNAMICS AND THERMAL

Altair AcuSolve™ is a general-purpose computational fluid dynamics (CFD) solver which is popular with wind turbine companies. Applications include full blade and rotor performance, including blade flutter, rotor-tower interaction, and placement optimization. AcuSolve® avoids typical CFD pre-processing bottlenecks and enables engineers to focus on exploring their designs. AcuSolve's powerful solver technology provides you with the most robust solution in the CFD marketplace. GE Flow Simulator, exclusively distributed by Altair, provides analyses essential to the gas turbine design process.
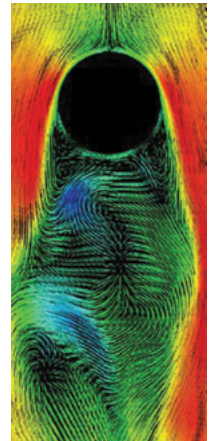
Vortex Bladeless engineers collaborated with Altair in the design of a novel turbine. This included using AcuSolve CFD technology to simulate vortex shedding, an aerodynamic phenomena resulting from windpassing around a blunt object

HELPING THE INNOVATORS INNOVATE, DRIVE BETTER DECISIONS, AND TURNING TODAY'S PROBLEMS INTO TOMORROW'S OPPORTUNITIES.

ALTAIR TRENDING IN:

Additive Manufacturing
Autonomous & ADAS
Big Data
Cloud Computing
Data Transformation
Digital Twin
e-Mobility

Exascale
GPU Solutions
Lightweighting
Machine Learning
Mechatronics
Smart Product Development
5G

"

The simulation process accelerated our product development —

to 26 months from the previous 65 months, a 60 percent reduction in overall development time. Furthermore, the process reduced overall development costs.

**Ganesh Nanaware, Baker Hughes, C&P,
Wellbone Construction**

ALTAIR

Altair is a global technology company that provides software and cloud solutions in the areas of simulation, high-performance computing (HPC), and artificial intelligence (AI). Altair enables organizations across broad industry segments to compete more effectively in a connected world while creating a more sustainable future.

To learn more, please visit altair.com