ANSYS AIM

ANSYS simulation technology enables you to predict with confidence that your products will thrive in the real world. Customers trust our software to help ensure the integrity of their products and drive business success through innovation.
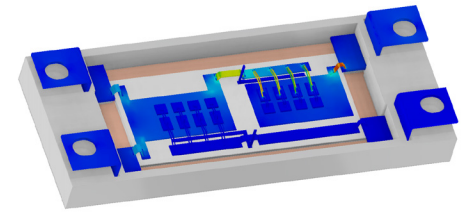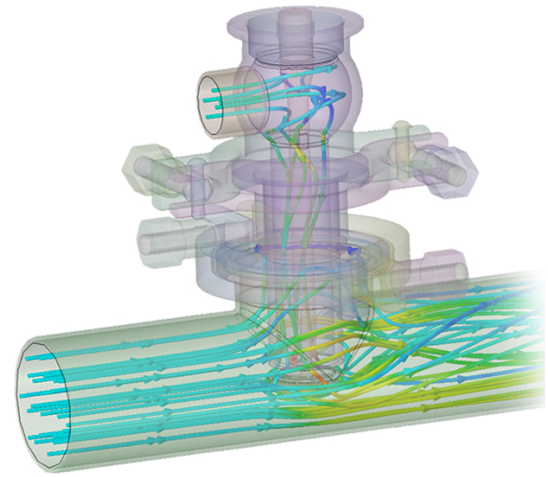

Simulation for Every Engineer

ANSYS AIM is a complete solution for design engineering simulations, with all steps from geometry creation to optimization and results generation in a single, modern, easy-to-use environment.

Current density in an IGBT package

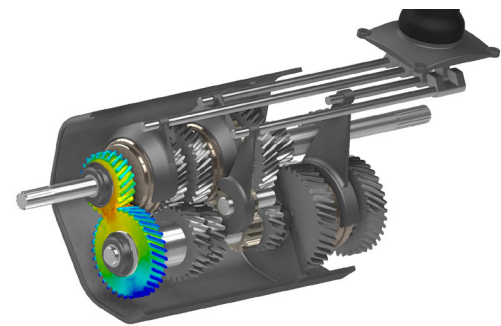## Lower the Barrier to Entry for Multiphysics Simulation

ANSYS AIM guides engineers through their single discipline and multiphysics simulations using templates and task-based workflows, enabling non-experts to rapidly learn the software and obtain meaningful results that consider all the forces at play.

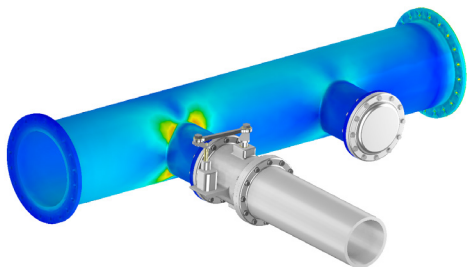## Automate Engineering Best Practices

ANSYS AIM makes it easy for simulation group managers and expert analysts to create custom templates and workflows that enforce company specified best practices and minimize unnecessary options for all steps in the simulation process

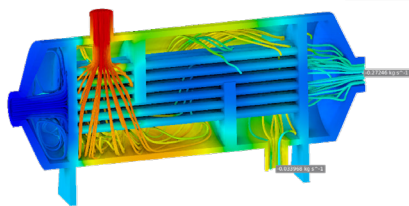*Equivalent stress results in a transmission assembly*

Equivalent stress results from fluid forces and thermal gradients in a flow control valve

Multiple results shown from one CFD simulation

Equivalent stress results in a mountain bike frame assembly

Strength Analysis

Static analysis with linear materials, large deflection analysis; bonded, no-separation, joints, rough, frictionless and frictional contact modeling; bolt pretension

Vibrations

Modal

Durability

Stress-life and strain-life fatigue

Thermal

Steady-state and transientthermal conduction, convection and external radiation

Fluids

Steady-state, single phase flow; incompressible and compressible fluids; laminar, turbulent, and laminar/turbulent transition flows; polymer extrusion; conjugate heat transfer; fluid buoyancy effects; external radiation; periodic interfaces; flow pathlines (massless)

Low Frequency Electromagnetics

DC electric conduction; magnetostatics with linear and nonlinear magnetic materials; magnetic frequency response

Multiphysics

One-way fluid-structure interaction, thermal-electric, thermal-stress, thermal-electric-stress, thermal-flow, magnetic-thermal, and magnetic-thermal-stress

Automation and Customization

Journaling and scripting, expressions, user interface extensions, solver command extensions, custom templates, and project wizards

Design Exploration

Design points, robust design and optimization

Geometry Modeling and Meshing

Direct model creation and editing; model import from all major CAD sources and neutral formats; parameterization of created and imported models; automatic, physics-aware tetrahedral and hexahedral meshing with optional size controls.

ANSYS AIM is being developed on a rapid release cycle with several releases per year. These capabilities are current as of ANSYS AIM 18.0.

ANSYS Multiphysics solutions help cross-functional engineering organizations predict the performance of complex products influenced by multiple physics and improve their designs through simulations of the interactions between physics.

"For the simulation of different physical domains, for example structural mechanical simulation coupled with fluid mechanics, we have introduced ANSYS AIM simulation software because of its easy-to-use multiphysics coupling. Now our technicians and engineers with no special simulation knowledge are able to use multiphysics simulation in their daily work."

Richard Krellner, Director Design Division, Klubert + Schmidt

ANSYS®