

Simcenter FLOEFD for Solid Edge

into the design process, allowing users to identify and fix problems earlier, saving time and money and enhancing productivity by up to 40 times.

Facilitating rapid and accurate fluid flow and heat transfer analysis in Solid Edge

Benefits

- Rapid and accurate simulation of fluid flow and heat transfer
- Frontloads simulation without disrupting the design workflow
- Delivers powerful parametric studies and design comparison functionality for easier what-if analysis

Features

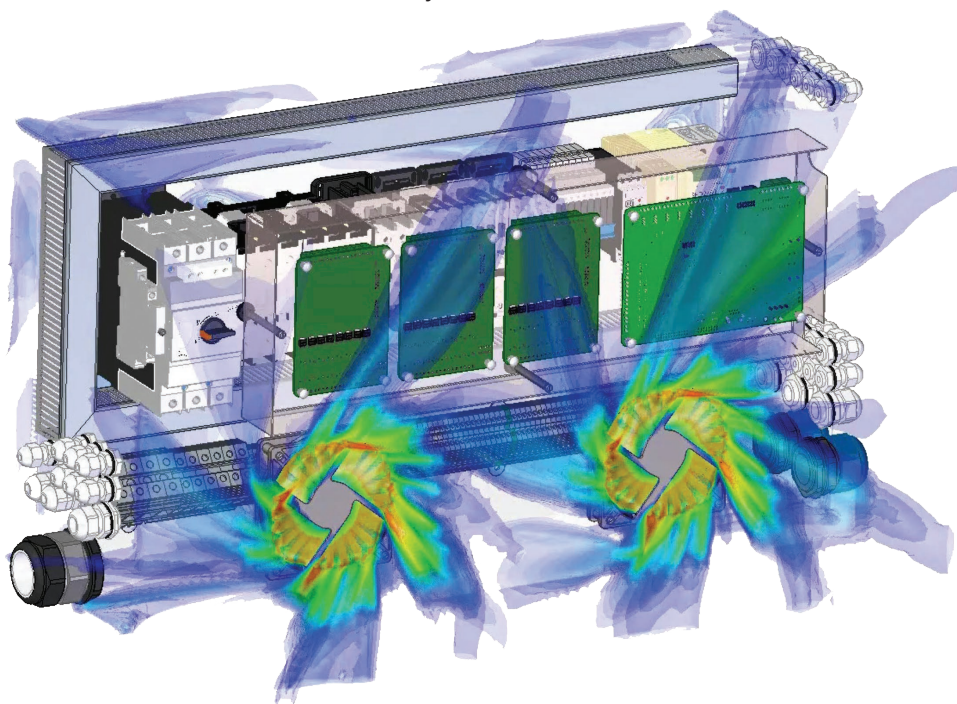
- Fluid body creation from native Solid Edge CAD data
- Provides an intuitive user experience
- Guided problem setup and automated, accurate, fast and easy meshing
- Robust solver for highly complex geometry
- Provides timely feedback
- Visualization tools

Summary

Simcenter FLOEFD™ for Solid Edge® delivers the industry's leading computational fluid dynamics (CFD) analysis tool for fluid flow and heat transfer. Fully embedded in Solid Edge, FLOEFD has intelligent technology at its core to help make CFD easier, faster and more accurate. It also enables design engineers to frontload CFD, or move simulation early

Underlying technology

Fast and powerful, Simcenter FLOEFD for Solid Edge takes advantage of synchronous technology and uses native geometry. Users don't lose time transferring, modifying or cleaning a model, or generating extra geometry to represent the fluid domain. As soon as the model has been created in Solid Edge, it can be prepared for analysis. For effective design validation, users can create variants of their concept and analyze them immediately in Solid Edge.



Simcenter FLOEFD for Solid Edge

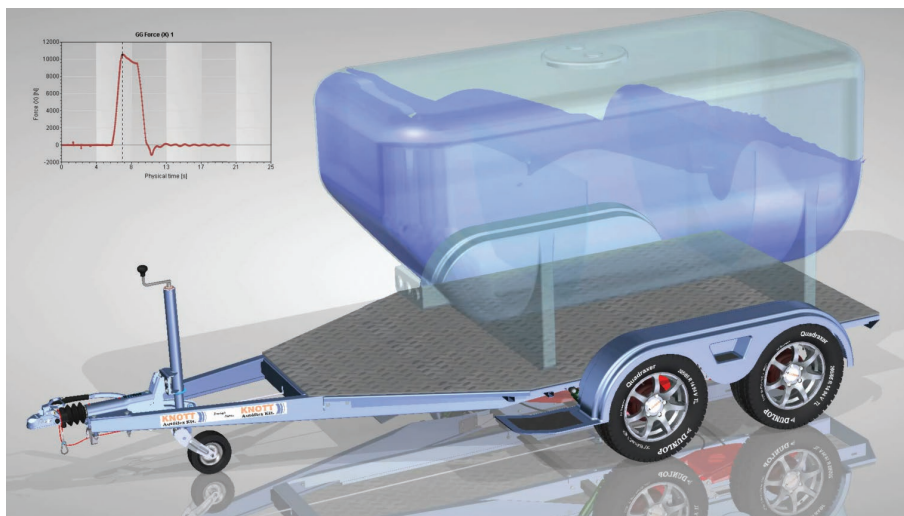
Unique SmartCells™ technology allows use of a coarse mesh without sacrificing accuracy, and a robust mesher easily captures arbitrary and complex geometry. As a result, the meshing process can be completely automated and requires less manual input.

Simcenter FLOEFD for Solid Edge also delivers engineering outputs in a timely and intuitive manner, including reports in Microsoft Excel and Word.

The expandable power of Simcenter FLOEFD

Simcenter FLOEFD is extensible with the aid of optional modules for advanced analyses, including:

- Advanced CFD module for special applications such as hypersonic flow for up to Mach 30, orbital radiation simulation such as for satellites, the NIST real gas database and gas combustion simulation
- Heating, Ventilation and Air Conditioning (HVAC) module for designing occupied spaces, including buildings and vehicles. It includes special simulation capabilities, including comfort parameters and tracer studies, an additional radiation model and an extended database for building materials
- Electronics Cooling module for detailed simulation of electronics systems. It includes an extended database, packaging materials and physics such as joule heating
- Light-Emitting Diode (LED) module for all lighting-specific simulations with the Monte Carlo radiation model, and a water film model for condensation and icing simulation of water films
- Electronic Design Automation (EDA) Bridge for importing data from EDA software, including Siemens Digital Industries, Cadence, Zuken and Altium, as well as import materials and power maps of printed circuit boards (PCB) and definitions of thermal territories and network assemblies (Delphi model)
- Extended Design Exploration module for multi-parameter optimizations leveraging the advanced HEEDS Sherpa solver
- Power Electrification module for more accurate thermal simulation of batteries with Equivalent Circuit Model (ECM) and Electrochemical-Thermal Coupled Model (ECT)
- T3STER Automatic Calibration module for the design of calibrated thermal semiconductor models from Simcenter T3STER measurements such as integrated circuits (IC) and insulated gate bipolar transistors (IGBT)
- BCI-ROM + Package Creator module, which comprised of the Boundary Condition Independent Reduced Order Model (BCI-ROM) feature, for extracting dynamic compact thermal models from a 3D model; thermal netlist extraction, for converting a 3D model into an electrothermal model for Simulation Program with Integrated Circuit Emphasis (SPICE); and package creator tool, for the rapid creation of thermal models of electronic packages
- Electronics Cooling Center module, offers the ultimate solution for electronics cooling, includes the BCI-ROM + Package Creator, EDA Bridge, Electronics Cooling and T3STER Automatic Calibration modules and more



Extending value

Solid Edge is a portfolio of affordable, easy to deploy, maintain and use software tools that advance all aspects of the product development process – mechanical and electrical design, simulation, manufacturing, technical documentation, data management and cloud-based collaboration.

Minimum system configuration

- Windows 10 Enterprise or Professional (64-bit only) version 1809 or later
- 16GB RAM
- 65K colors
- Screen Resolution: 1920x1080
- 8.5GB of disk space required for installation



Siemens Digital Industries Software
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