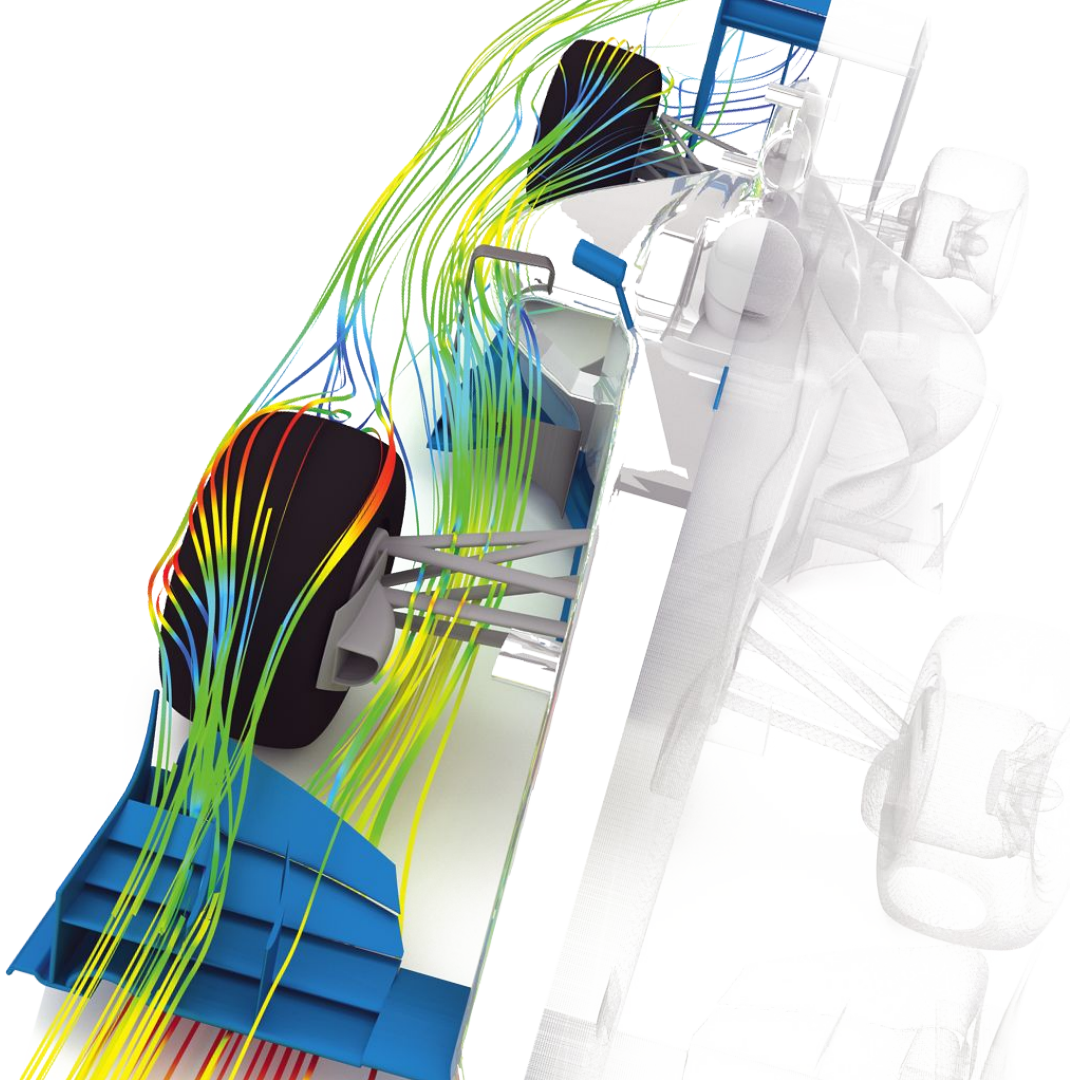
Educational License

SIMSCALE



EDUCATIONAL Subscriptions

SimScale Educational Subscription	Price $
SimScale NON COMMERCIAL Application ✓ Accounts are valid for 1 year after request approval **High performance Cloud computing.** ✓ Unlimited Parallel Simulations **Physics Modules (details here) :** ✓ Incompressible, Compressible, Convective Heat Transfer, Conjugate Heat Transfer ✓ Free Flow ✓ Static, Dynamic, Heat Transfer, Thermomechanical, Frequency Analysis, Harmonic X Not included : Subsonic X Not included : Incompressible LBM, Pedestrian Wind Comfort **Training and technical support.** X Support not included	1 - Teaching Package - Unlimited accounts **€ 2,500 yearly payment, 2000 core hours per student included yearly** **OR** 2 - Teaching Package - Individual Accounts **€ 50 per student yearly, 2000 core hours included per student included yearly. (10 accounts minimum order)** (Additional core hours can be purchased at $0,10 per unit) —---------- 3 - Research Package - Research account **€ 500, 10.000 core hours included yearly** (Additional core hours can be purchased at $0,10 per unit)

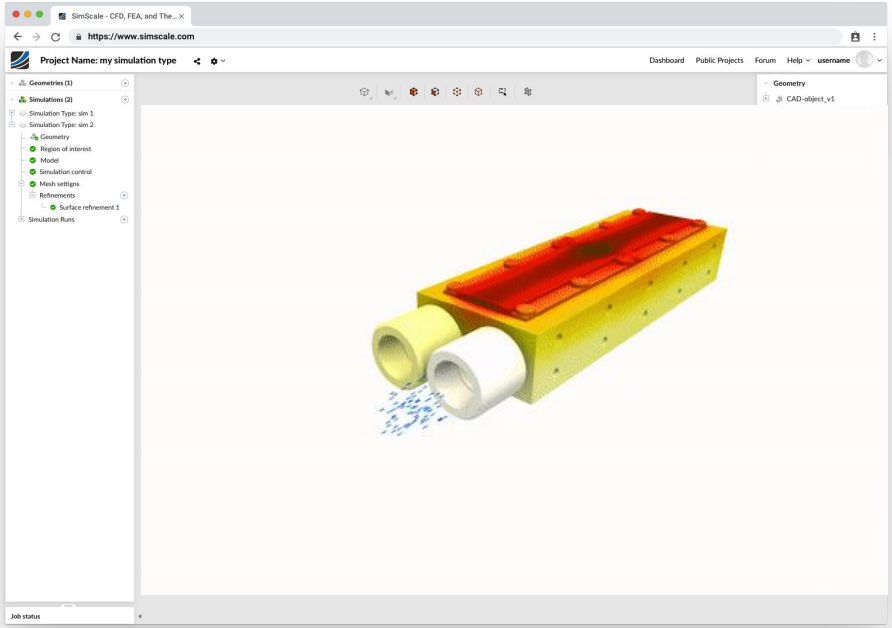
SimScale - The Company

- Founded in 2012
- Offices in Munich, Boston, and New York
- 120 employees
- 350,000+ users worldwide
- 350,000+ simulation projects
- 1,000,000+ simulation jobs

Simulate **early**. Simulate **more**. Simulate **now**.

Simulation accessible to everyone

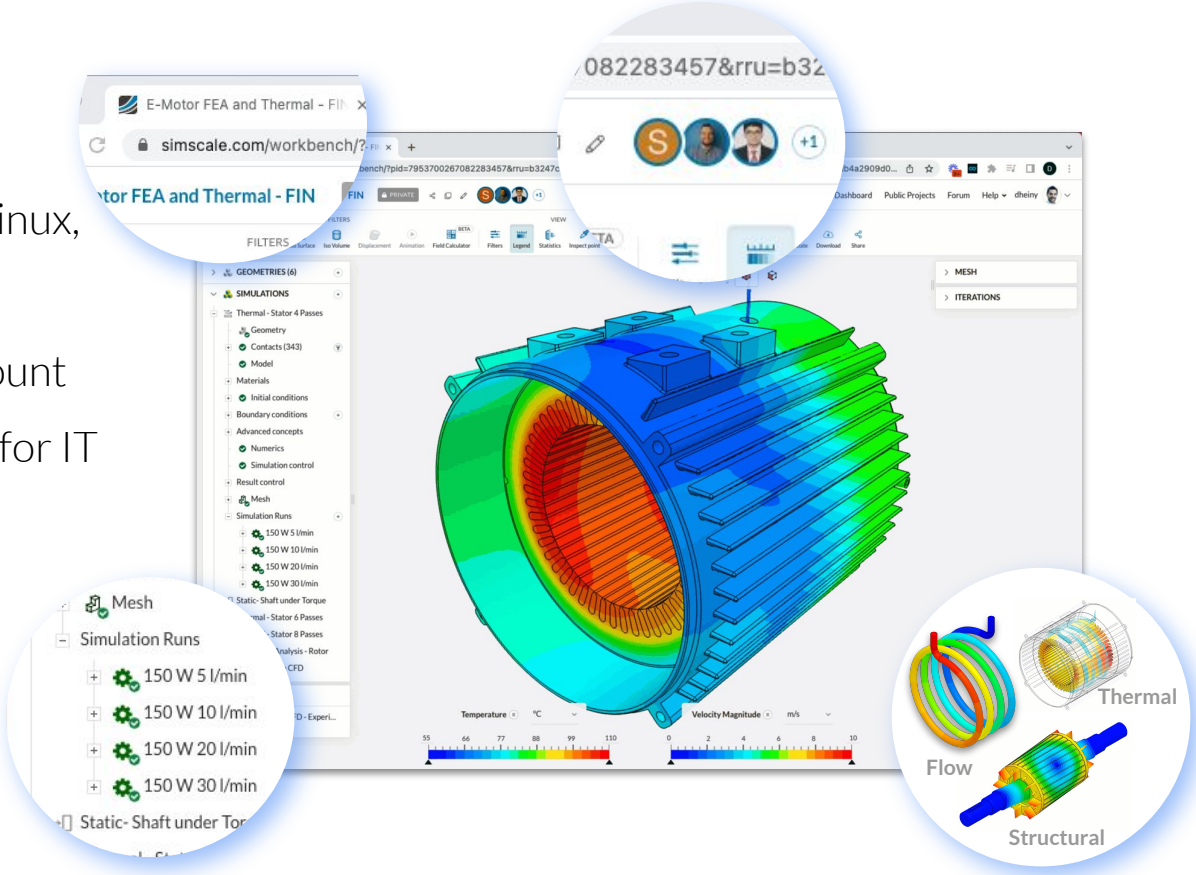
- Runs on any device - Mac, PC, Linux, Chromebook
- No downloads, installs, or need for IT support
- Unlimited computing power
- Built for easy collaboration



SIMSCALE

A cloud-native simulation platform for available CAE without limitations

- Runs on any device - Mac, PC, Linux, Chromebook
- Each user has an individual account
- No downloads, installs, or need for IT support
- Unlimited computing power
- Built for easy collaboration



CAD Interoperability

SimScale integrates seamlessly into existing design workflows

CAD Agnostic

SimScale imports practically every proprietary and exchange CAD format: CATIA, Solidworks, Inventor, Creo, NX - to name a few.

STEP ACIS X_T STL IGES

CAD Plugins

Dedicated SimScale plugins exist for selected CAD systems, that enable one-click export and update workflows.

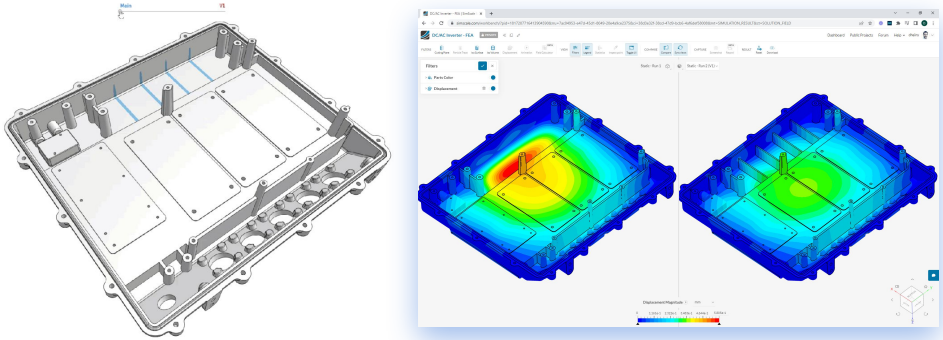
onshape AUTODESK FUSION 360 SOLIDWORKS

Associative Version Update

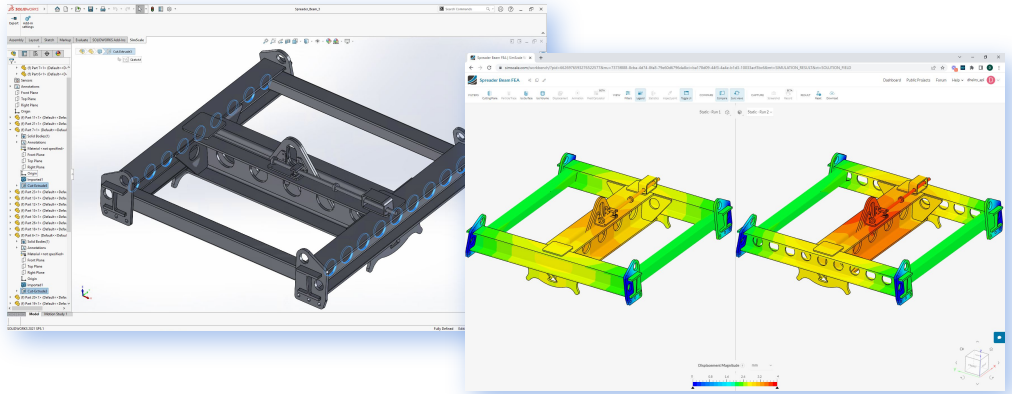
Once a simulation is set up, new model versions are associatively updated, such that no manual reassignment is needed, enabling a fast, iterative workflow

Parametric Optimization Support

Full DoE / Optimization studies can be run via SimScale's API



Onshape + SimScale: Design changes are seamlessly updated



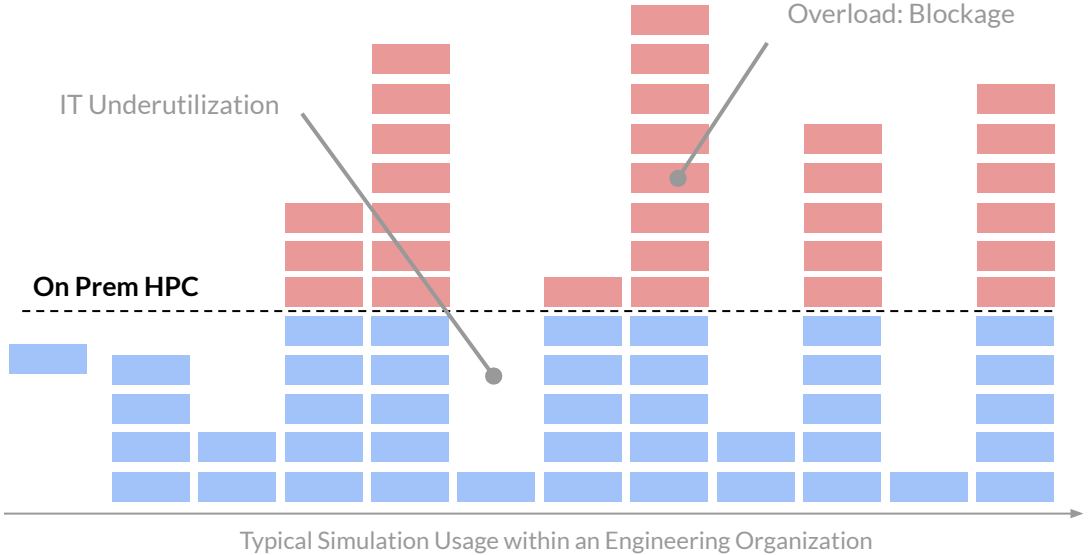
Solidworks + SimScale: A dedicated plugin allows update & rerun via 1 click

Unlimited High-Performance Computing & Data Management

- Practically unlimited HPC resources
- Unlimited simulations simultaneously
- Seamless simulation data management

Benefits:

- Reduce simulation turnaround time
- Explore more designs faster
- Save IT/Hardware costs



Simulate **early**. Simulate **more**. Simulate **now**.

SimScale Academic Program

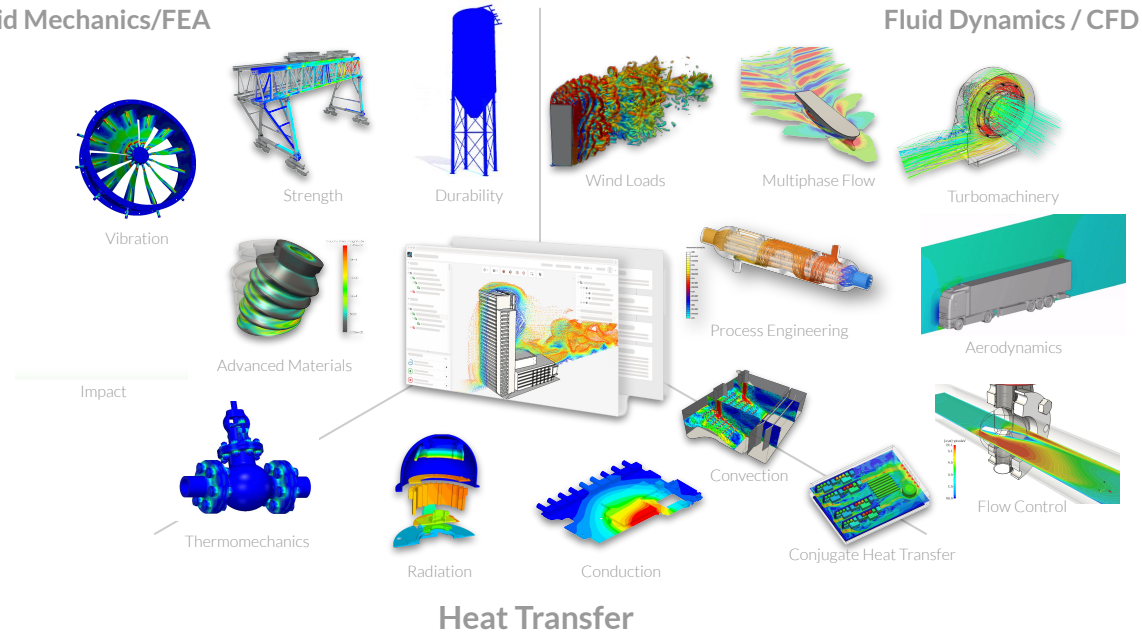
The SimScale Academic Program provides students, educators, and researchers easy access to powerful engineering simulation software.

Proven Simulation Technology

- Robust and fast pre-processing
- Proven, extensively validated solvers
- Broad physics spectrum
- Integrated post-processing environment

Benefits:

- Confidence in simulation results
- No separate training on separate tools



"The discharge coefficient measured with SimScale matches by 95% the one from the physical laboratory tests."
Gavin Munro, Managing Director at GM Flow

"In the end, the simulations performed excellently! We compared the drag numbers and surface data generated by SimScale to those generated by other CFD packages and found a higher degree of accuracy and detail."
Joel Cy Scott, Lead Engineer at Tokyowheel

Creating an Account on simscale.com

Innovate faster with cloud-native simulation

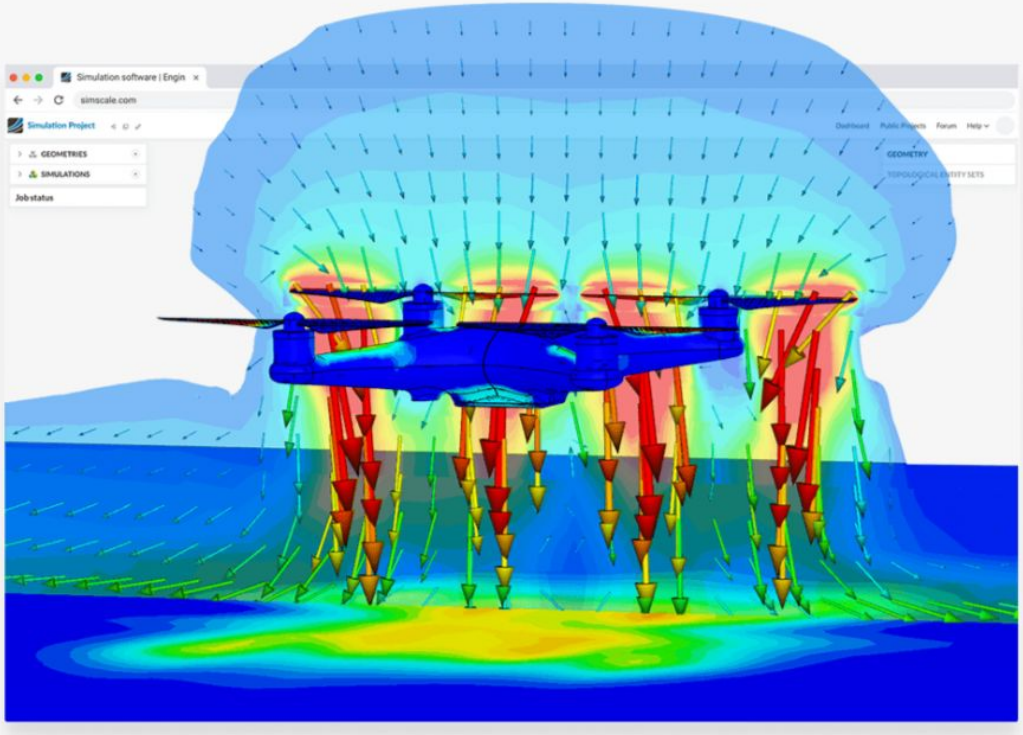
SimScale makes high-fidelity engineering simulation truly accessible. From anywhere. At any scale. In the cloud.

Start Simulating Now

76 Reviews | 4.8

Capterra

4.5



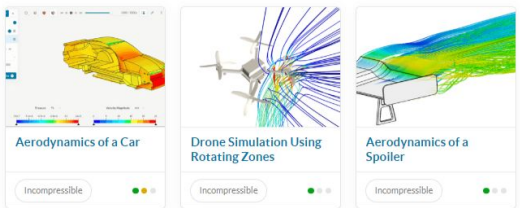
Resources for newcomers to SimScale

SimScale Tutorials and User Guides

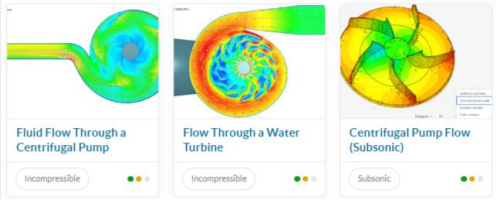
Validation Cases

Internal Flow Applications

External Aerodynamics



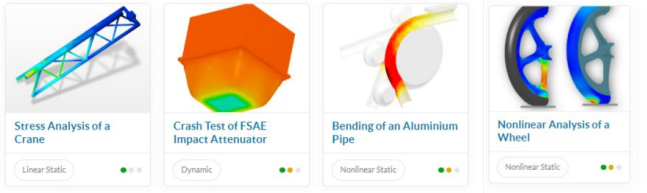
Turbomachinery



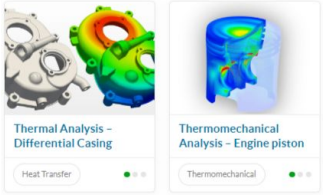
Thermal Analysis

Electronics Cooling

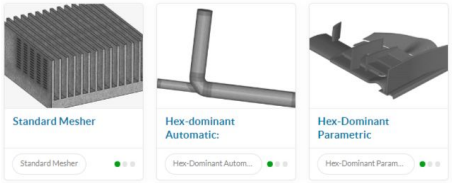
Structural Mechanics



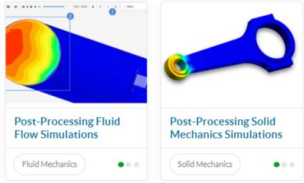
Thermomechanics



Meshing



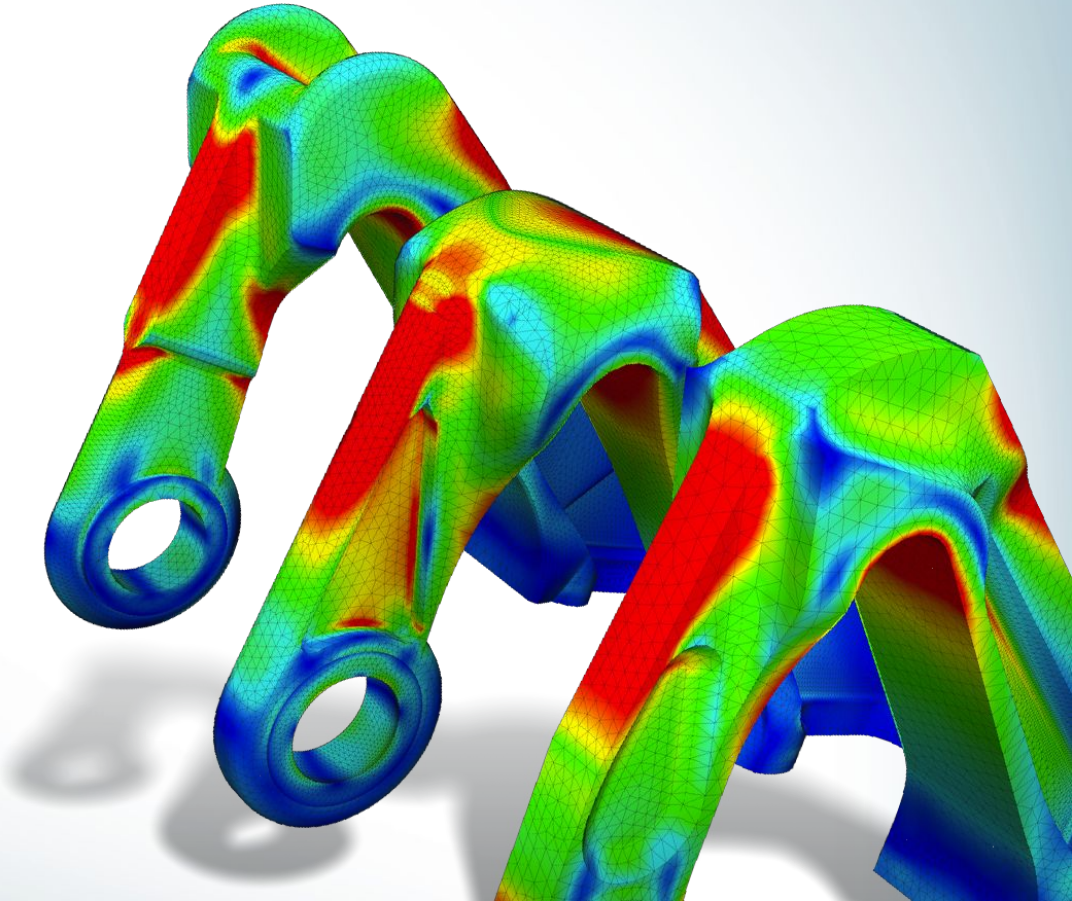
Post-Processing



SIMSCALE

Applications

Used in dozens of industries

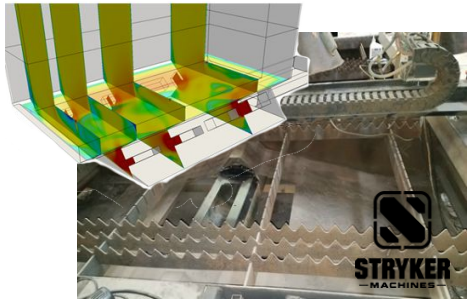


Industrial Equipment

Machine Design & Manufacturing

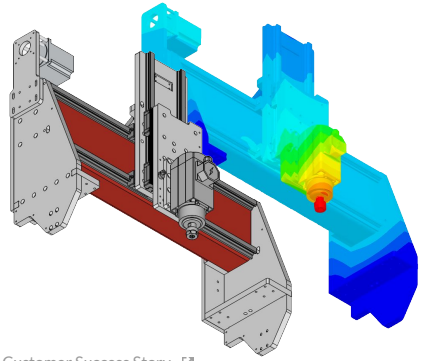
Customer Success Story

CNC Machine Fume Extraction



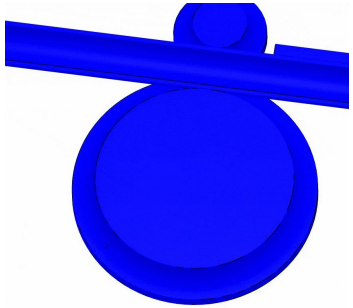
Example Application

CNC Gantry Vibration Analysis



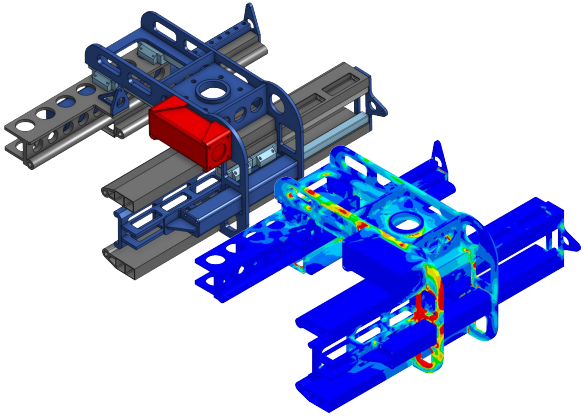
Example Application

Aluminum Pipe Bending



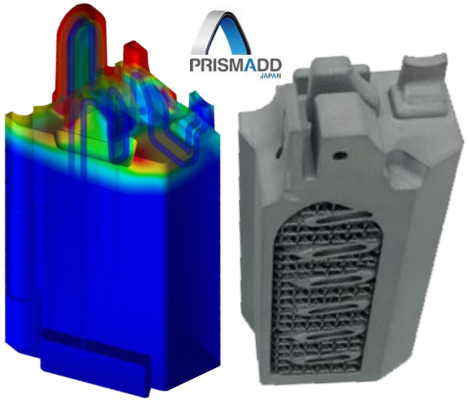
Customer Success Story

Robotic Gripper Strength Analysis



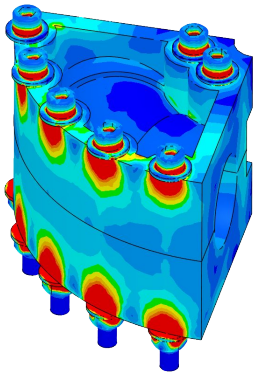
Customer Success Story

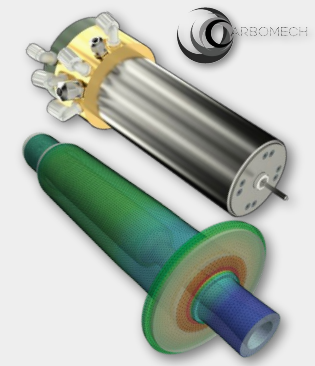
High-temperature Aluminum Casting



Example Application

Bolt Pre-stressing





CARBOMECH reduced the number of physical prototypes for their High-Speed Spindles by 50%

"Support is super good! The few times I had something wrong or hadn't understood something, I would simply email the Customer Success Engineer and minutes later the solution was there. I can only say that the level of support is very good!"

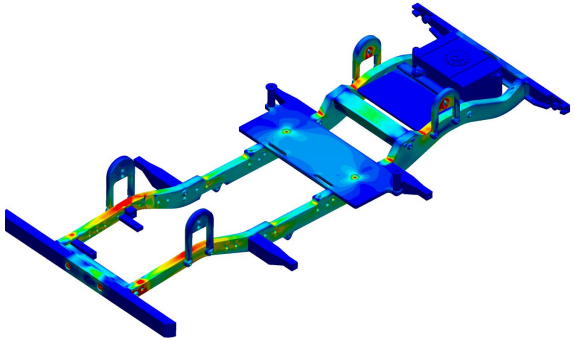
Fabrizio Pauri
Chief Engineer, Carbomech

SIMSCALE

Strength & Durability Analysis

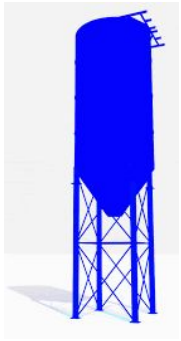
Customer Success Story

Gantry Crane Strength Assessment



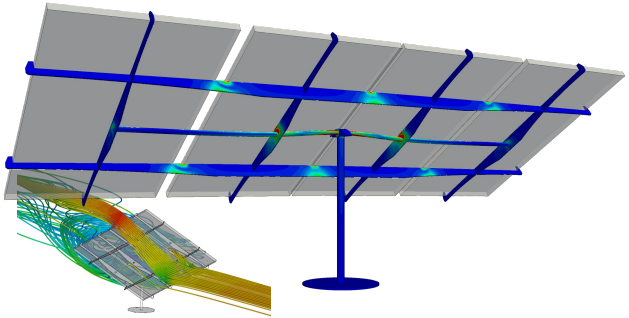
Example Application

Chassis Torsional Stiffness



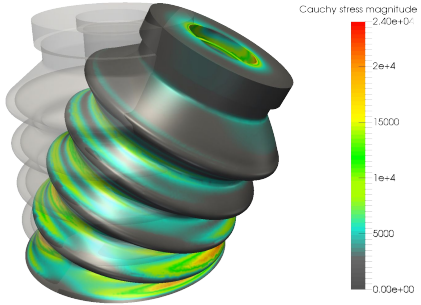
Customer Success Story

Stiffness of a silo superstructure



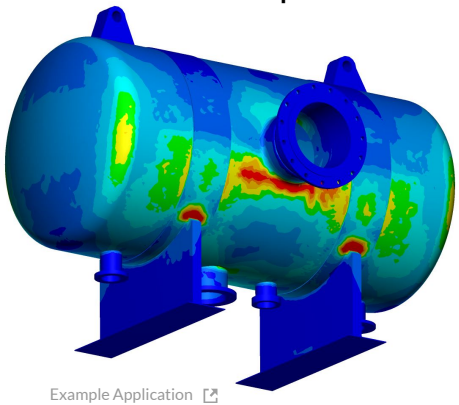
Example Application

Solar panel deflection under wind load



Example Application

Rubber bellow torsional and bending load

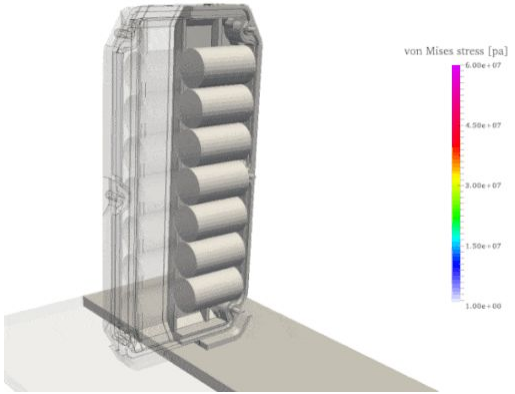


Example Application

Pressure Vessel FEA

SIMSCALE

Impact & Vibration Analysis



Customer Success Story

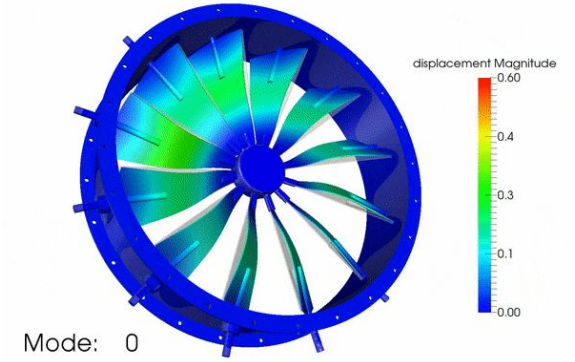
Battery Pack Crush Test Analysis

Example Application

Quadcopter Drop Test

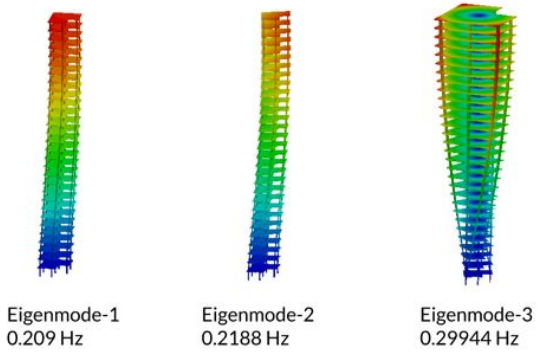
Customer Success Story

Vibration of vehicle roof mount system



Example Application

Eigenmodes of a vortex damper

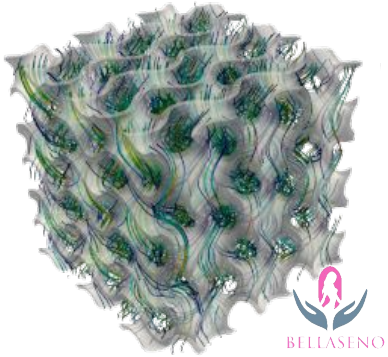


Example Application

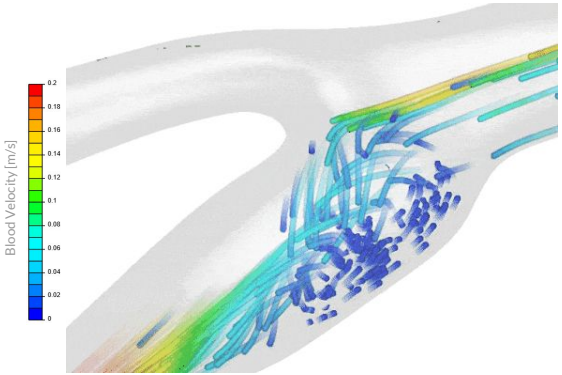
Building Eigenmodes

SIMSCALE

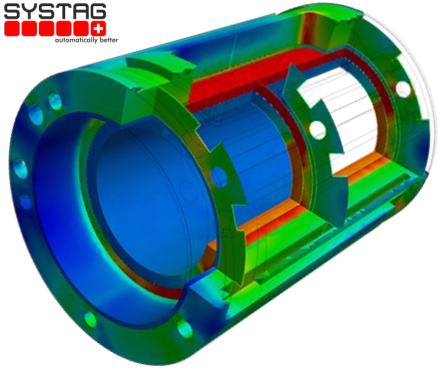
Medical & Pharmaceutical Equipment Design



Customer Success Story
Medical Implant Design



Example Application
Carotid Artery Blood Flow



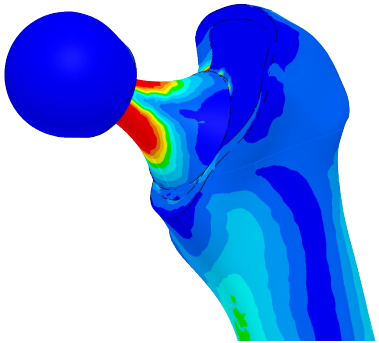
Customer Success Story
Laboratory Equipment Thermal Design

"We are really impressed with the SimScale platform. Thanks to the platform's ease of use, the professional support of SimScale engineers and the perfect communication with them, we were able to efficiently perform simulations and sort out our design problems. It's hard to imagine how much physical prototyping time and measures we saved thanks to virtual prototyping."

Piotr Pietryga
CEO CRYO Science

Example Application
Coronary Stent Stress Test

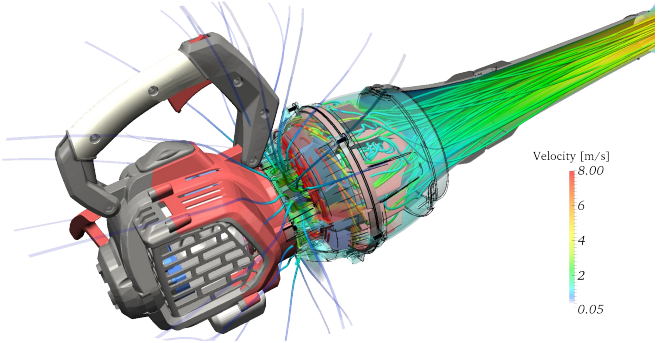
Customer Success Story
Pharmaceutical Test Equipment



Example Application
Stress Analysis Hip Joint Prosthesis

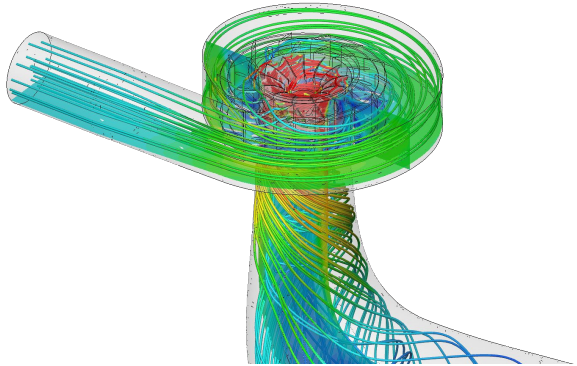
SIMSCALE

Turbomachinery CFD & FEA



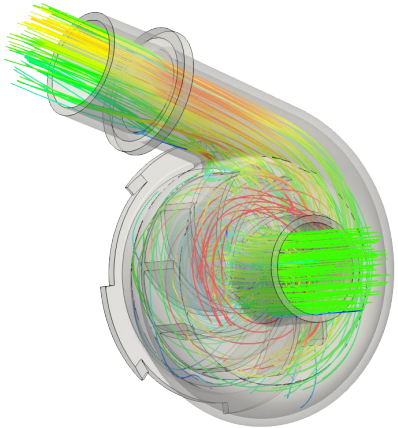
Example Application

Leaf Blower Air Suction



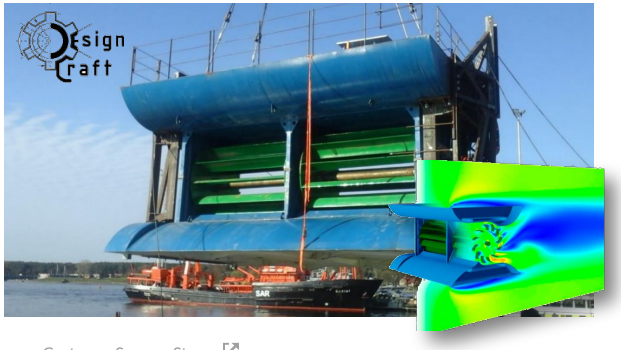
Example Application

Francis Turbine Design Optimization



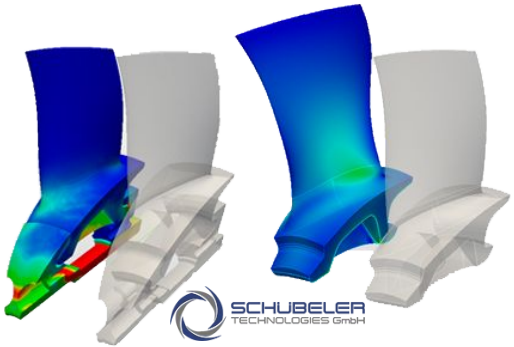
Example Application

Radial Pump Characterization



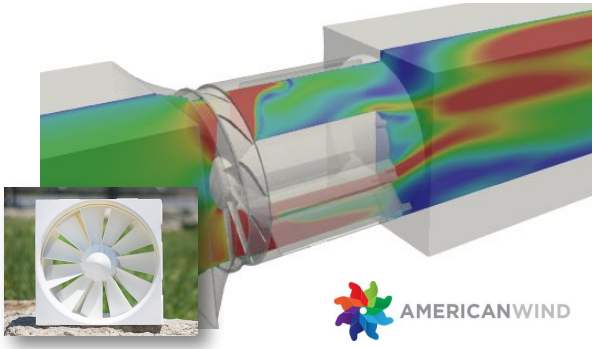
Customer Success Story

Water Turbine Optimization



Customer Success Story

Fan Blade Stress Analysis

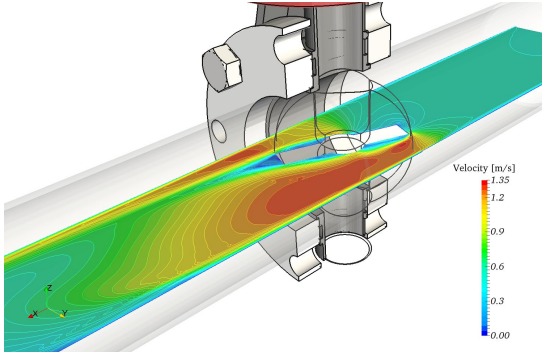


Customer Success Story

Wind Turbine Optimization

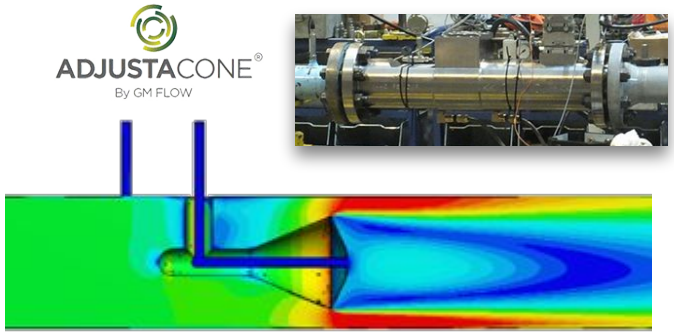
SIMSCALE

Valve & Flow Control FEA & CFD



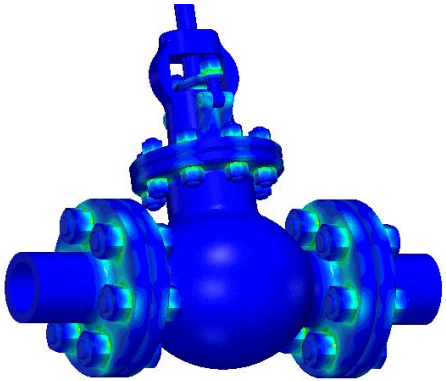
Example Application

Butterfly Valve Flow Simulation



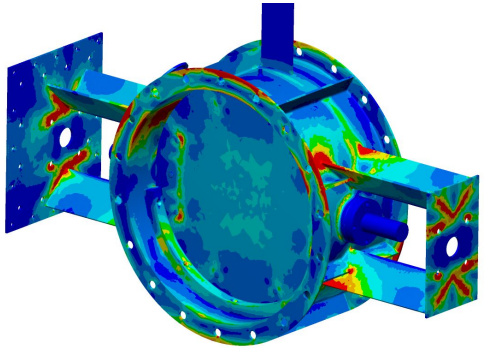
Customer Success Story

Validation of an Oil & Gas Flow Meter



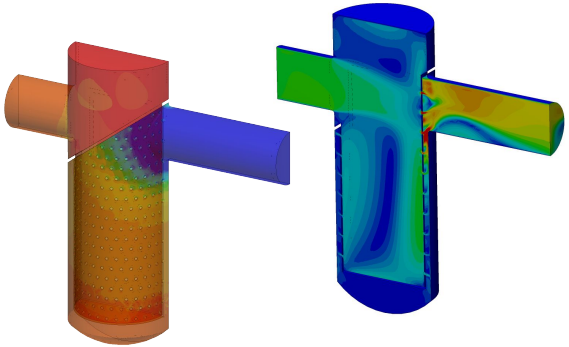
Example Application

Globe Valve under thermal shock



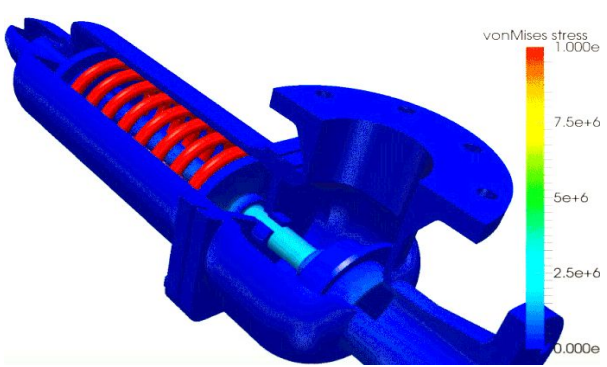
Example Application

Pressurized Butterfly Valve



Example Application

Basket Strainer Flow Simulation

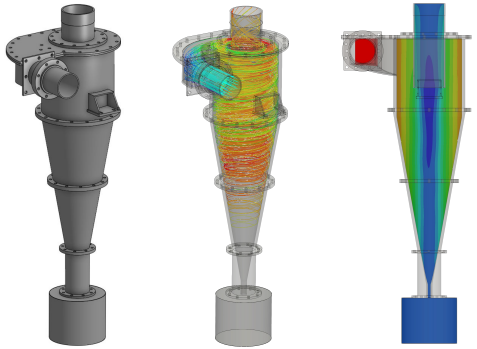


Example Application

Pressure Relief Valve FEA

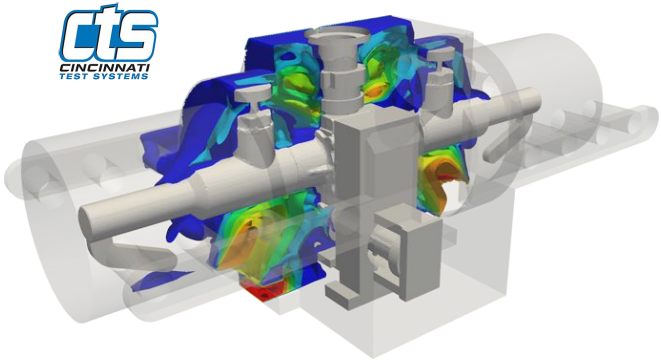
SIMSCALE

Process Engineering Equipment



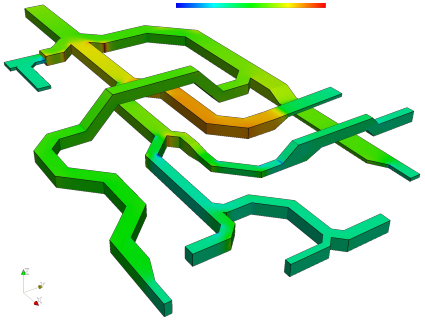
Example Application

Cyclone Separator Flow Simulation



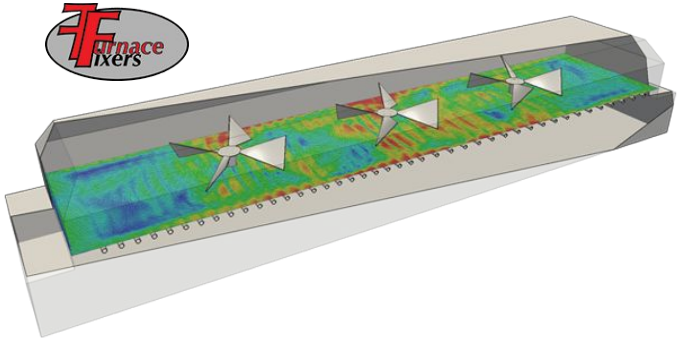
Customer Success Story

Design Optimization of a Leak Test System



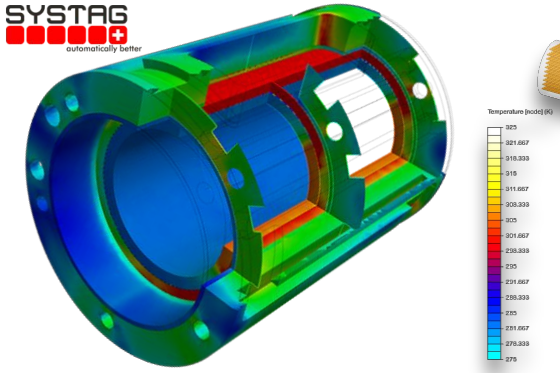
Example Application

HVAC Ducting Pressure drop



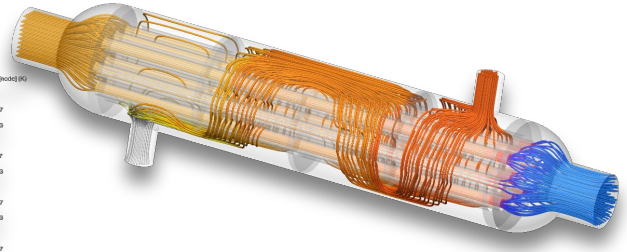
Customer Success Story

Efficiency improvements for Furnace



Customer Success Story

Thermal Study of Laboratory Equipment

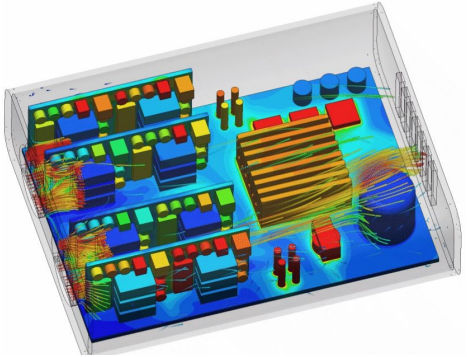


Example Application

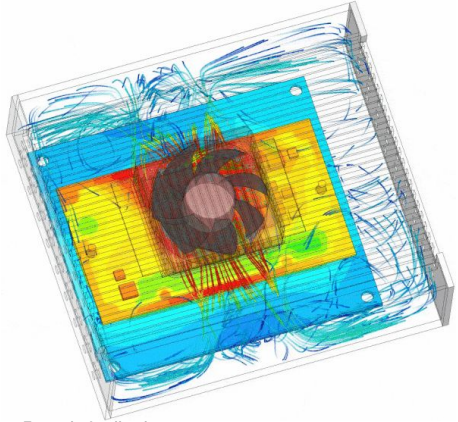
Heat Exchanger Analysis

SIMSCALE

Enclosure Cooling

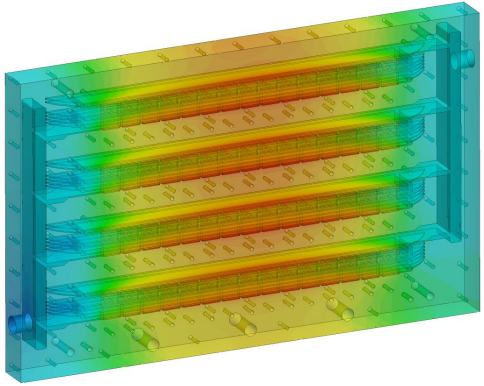


Example Application
Fan-Cooled Power Electronics Enclosure

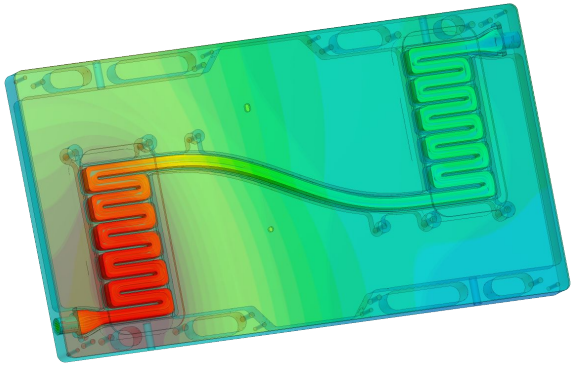


Example Application
Industrial GPU Enclosure

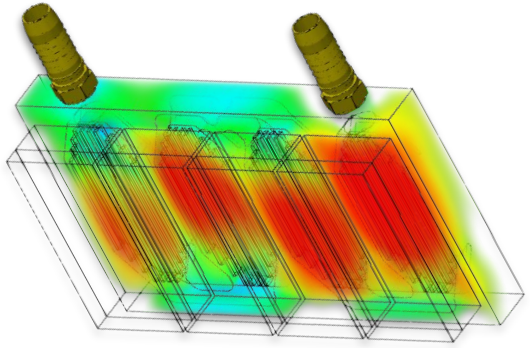
Customer Success Story
IoT Edge Device Enclosure



Example Application
Water-cooled Transistor Plate



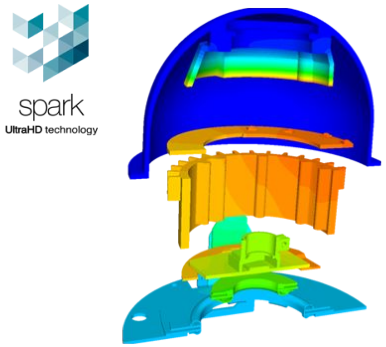
Example Application
Water-Cooled IGBT Mounting Plate



Example Project
Water-cooled power electronics

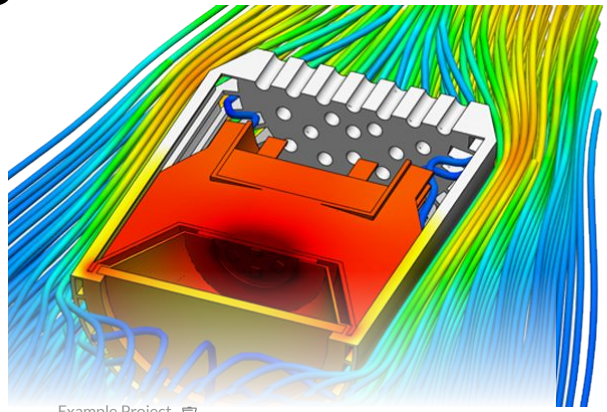
SIMSCALE

Electronics Cooling



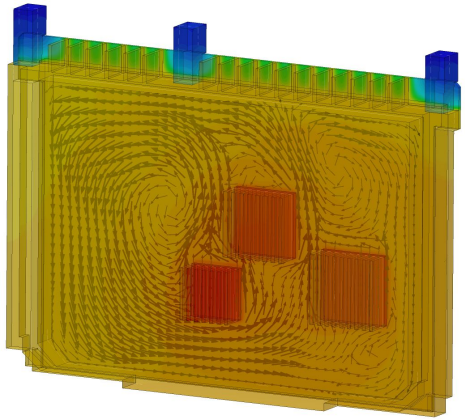
Customer Success Story

LED Thermal Management



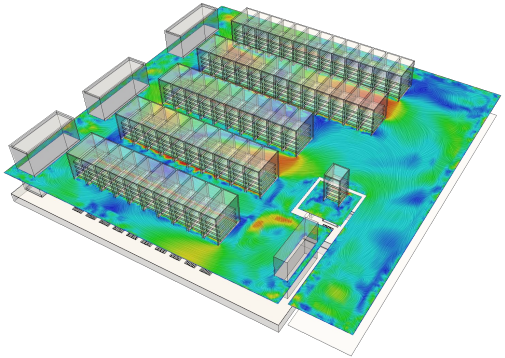
Example Project

LED Thermal Management



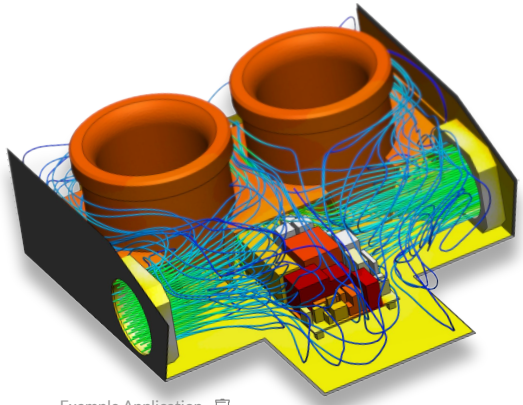
Example Application

Sealed Electronics Enclosure



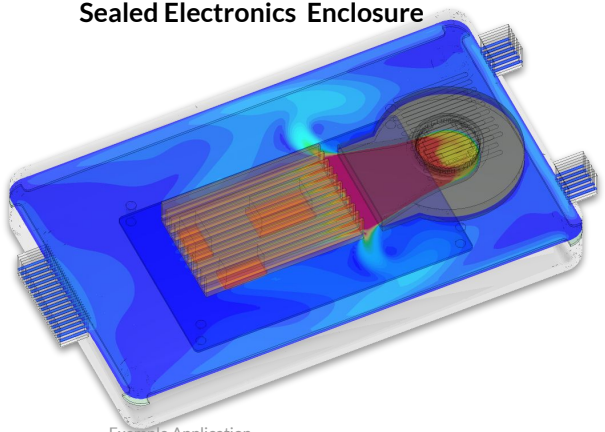
Example Application

Data-Center Cooling



Example Application

Medical Equipment Cooling

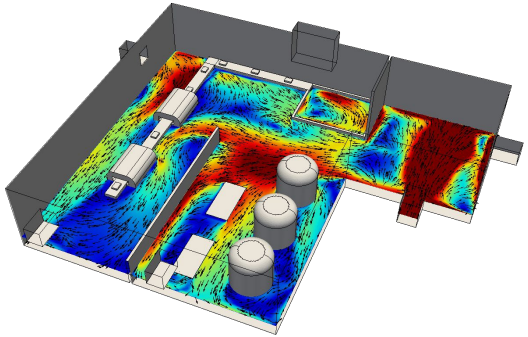


Example Application

Drone Electronics Cooling

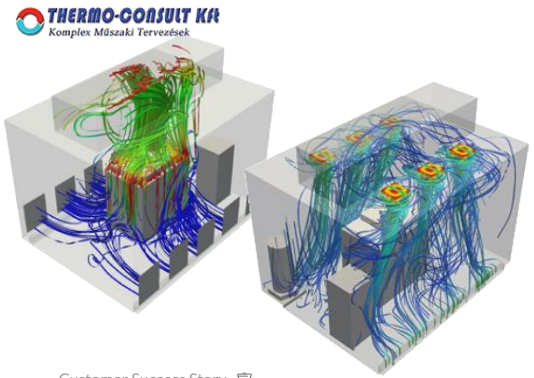
SIMSCALE

Smoke / Contaminant Control



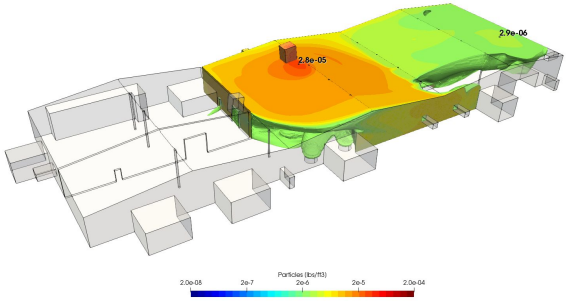
Example Application

Industrial Facility Contaminant Control



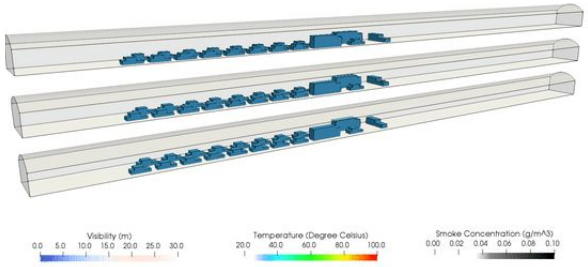
Customer Success Story

Clean Room Contamination Control



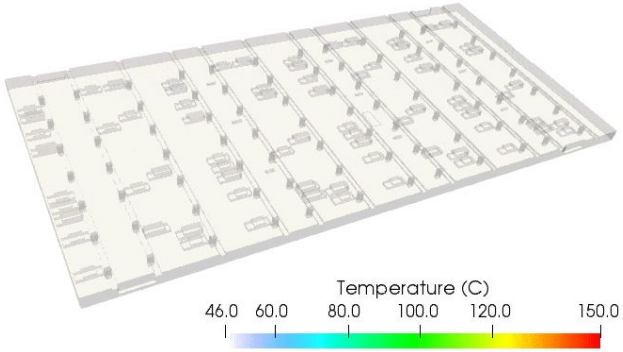
Customer Success Story

Factory HVAC & Dust Particle Extraction



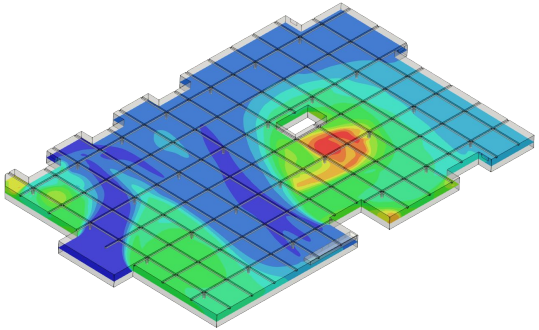
Example Application

Fire Scenario in Tunnel



Example Application

Fire Scenario in Parking Garage



Example Application

CO Distribution in Garage

SIMSCALE

Example of application for Teachers
Complete Wing Flap characterisation study within 1 hour

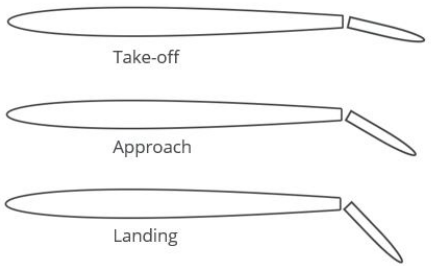
NACA 2412 Wing with Slotted Flaps

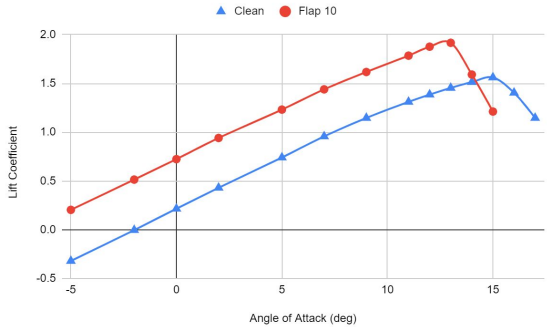
SIMSCALE

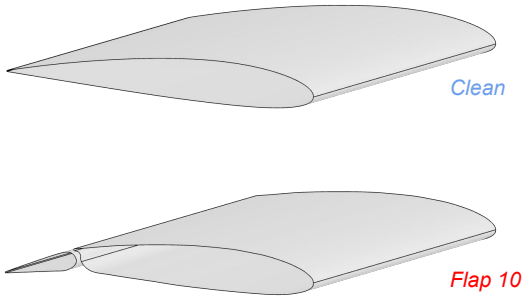
Project Description and Operating Conditions

- Study two different wing configurations to obtain the contribution of the flaps on lift coefficient values by taking advantage of the CAD associativity
- Use parametric features to properly obtain the lift coefficient vs angle of attack curves
- All in one simulation platform: CAD Upload - CAD Edit - Pre-processing - Post-processing

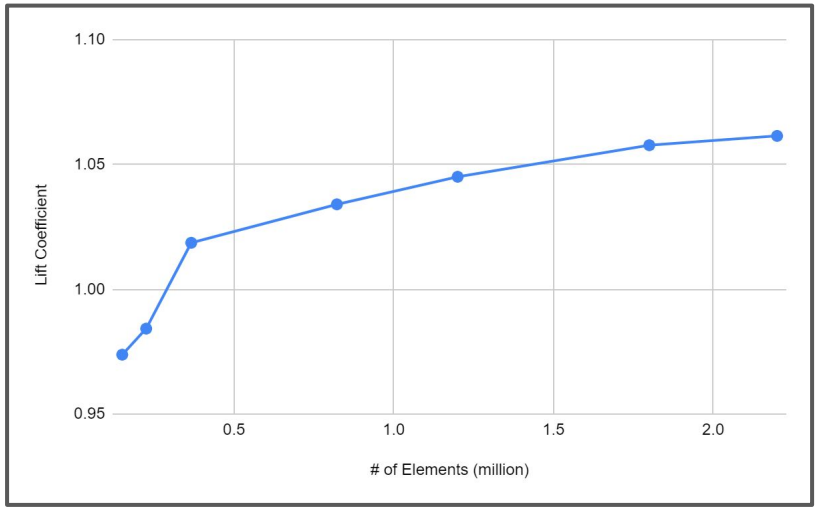
Setup **2 designs x 12 data points (24) simulation runs** on order to characterise the wing configurations in **less than 1 hour**

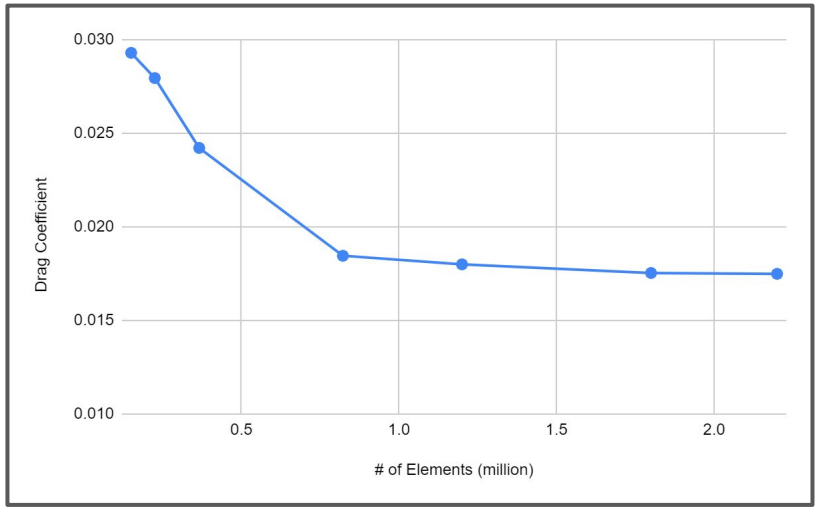




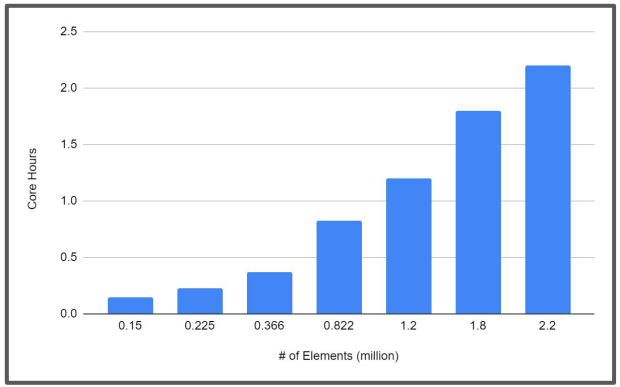


STEP 1 - Mesh Independency Study



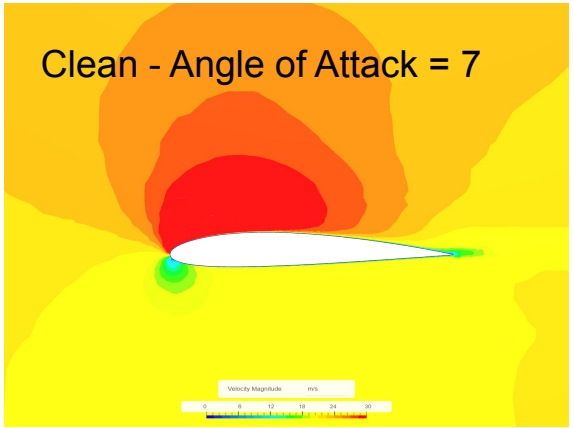


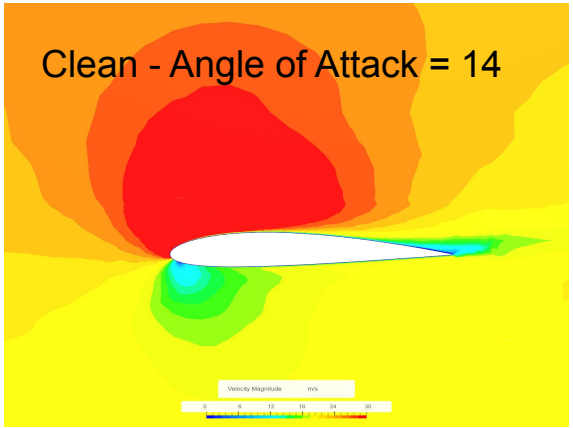
Mesh independence study is done in parallel, **running 7 meshes and simulations at the same time.**

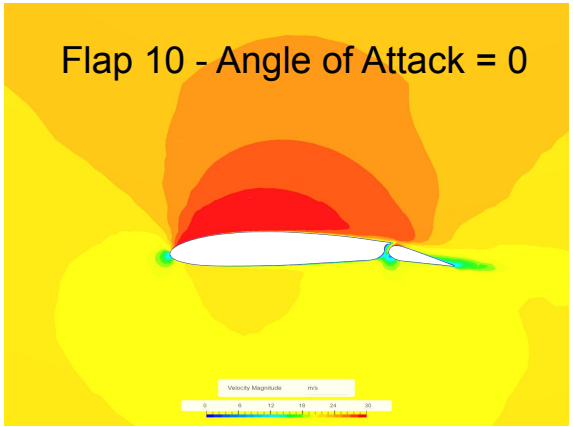


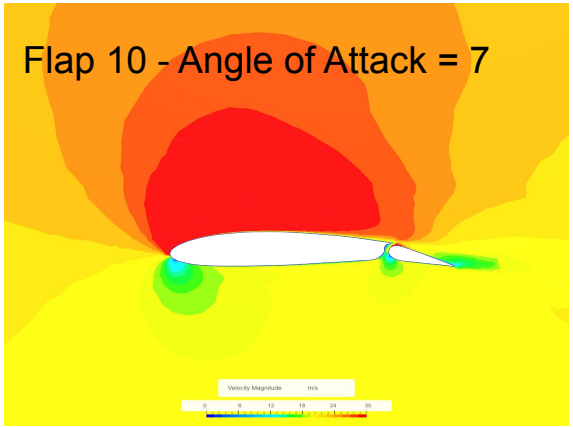
SimScale makes it **really easy to systematically run Mesh Independence studies** and ensure good practices are met with little effort.

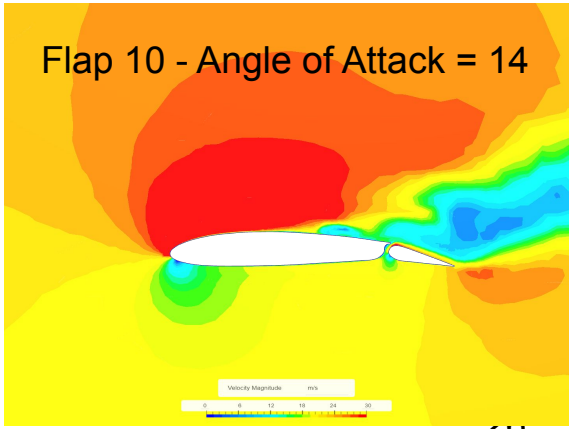
STEP 2 - Multiple Profiles and Angles of Attack



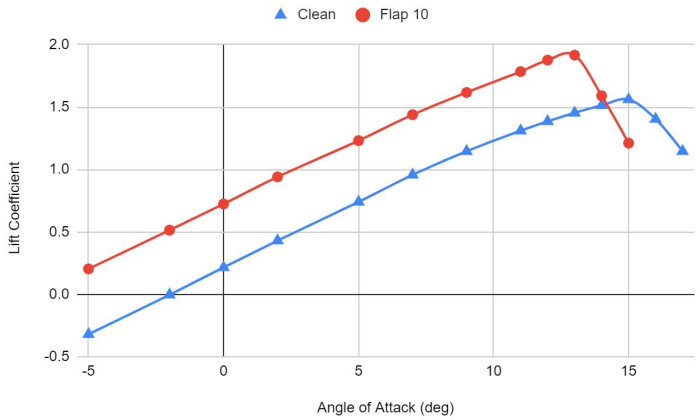


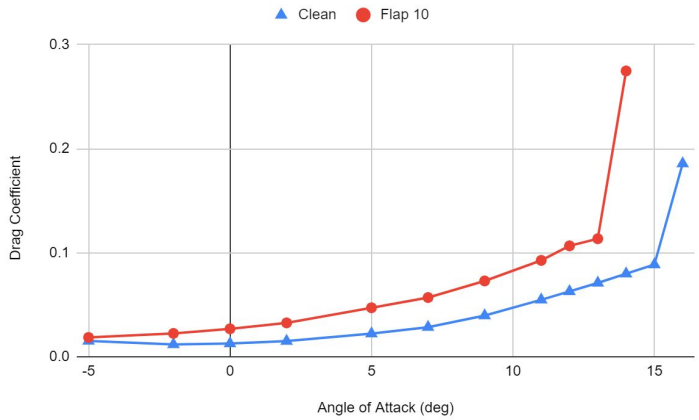


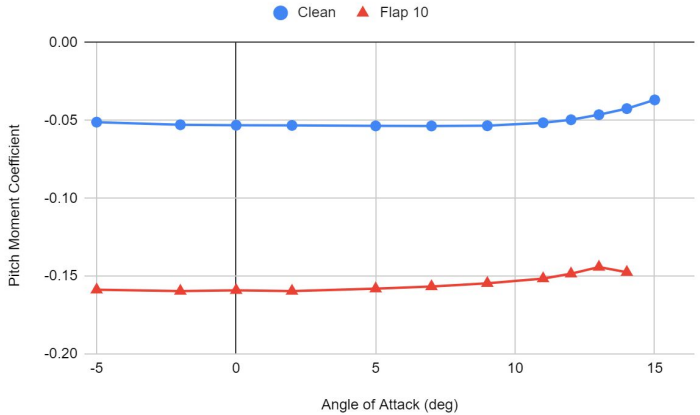




Project Results - Flow Coefficients







SUMMARY

- 12 simulations for each configuration are completed with an assessed mesh
- Around 80 core-hours for each design of experiment (batch of 12 simulations) were consumed
- Denser angle of attack points are chosen around the stall region to properly obtain the flow behavior around this region