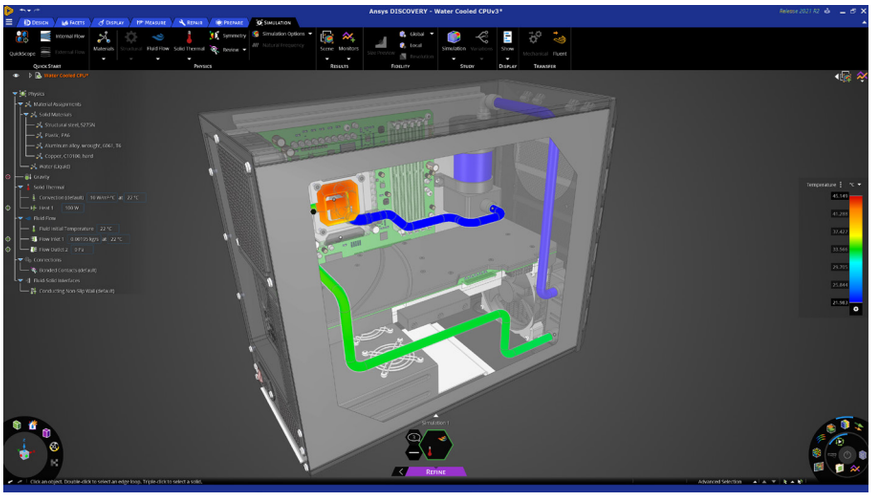
DATA SHEET

Discovery

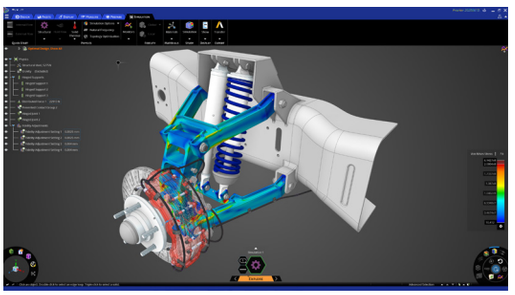
It Just Works
By combining interactive modeling and multiple simulation capabilities in a first-of-its-kind product, Discovery allows you to answer critical design questions earlier in the design process. This upfront approach to simulation saves time and effort on prototyping as you explore multiple design concepts in real time, with no need to wait for simulation results.

Interactive Simulation
Simulation results change live as you change physics types or inputs, make geometry edits or alter display characteristics. Boost productivity and performance by eliminating long waits for simulation results. Discovery lets engineers focus on innovation and product performance.

Design Exploration for Every Engineer
Set up and run simulations in Ansys Discovery for a wide range of industries and applications faster and easier than ever before with new multiple physics capabilities, performance improvements and dynamic collaboration updates.



Leverage conjugate heat transfer (CHT) to determine fluid and solid temperatures for evaluating fluid and thermal performance of product designs.



Instead of dealing with the difficulty of performing structural analyses on complicated geometry, Discovery enables near-instant simulation results once loads are established.

The phrase goes 'Practice makes perfect', We say 'Iteration makes Perfection'. Discovery has made a profound impact on how we iterate quickly to create better products.

MAURICIO TORO
CEO / TECHFIT

"Over 35 million people in this world have some form of a physical disability and come in all shapes and sizes. **The speed, ease of use, and accuracy of Ansys Discovery has made a foundational change in our product development process, allowing us to cater our design to all human beings."**

GEOFF BABB
FOUNDER / ONWARD PROJECT LLC.

Example Capabilities

Structural & Modal Analysis

- Interactively understand and improve part or small assembly strength and stiffness.
- Optimize weight through immediate visualization of stress distribution and rapid geometry modifications.
- Quickly calculate natural frequencies for parts and assemblies to immediately determine if the lowest mode of a design is above a minimum acceptable frequency.

Fluid Analysis

- Whether you're addressing internal or external flow, you can explore a variety of fluid wonders.
- Incorporate porous media into your analysis when applicable.
- Gain early insights into the trends of pressure drop, drag and lift.

Topology Optimization

- One word. FAST. It can build an optimal shape in about 60 seconds.
- Discover a variety of design solutions proposing a consolidation of multiple components into one or a few solid parts, reducing assembly costs and optimizing manufacturing techniques.
- Identify solutions to minimize mass and material use, while meeting performance criteria, maintaining design goals, and holding engineering constraints.

Thermal Fluid Analysis

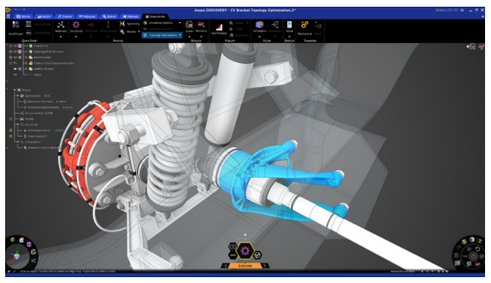
- The real-time heat flow and temperature distribution Live Solver allows you to test ideas in real time
- Leverage conjugate heat transfer (CHT) to determine fluid and solid temperatures for evaluating fluid and thermal performance of product designs.
- Solve a wide range of product design challenges with multiple physics simulation capabilities across numerous industry applications.

Model Prep for Simulation

- Simplify models in minutes instead of hours.
- Quickly modify, optimize and parameterize any CAD File to reduce mesh complexity.
- Construct simplified representations of models, such as volume ex-tractions, enclosures, beams, and mid-surfaces.

Parameter Studies

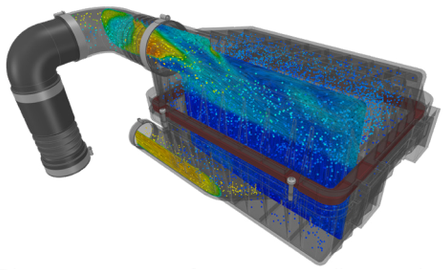
- Optimize your product by running parameter studies to evaluate options and explore the trade-offs of various designs.
- Using parameter studies —also known as parameter sweeps —the design studies create a Pareto frontier of data in Ansys Discovery, meaning you can explore a large number of design possibilities by automating multiple geometric or simulation parameters.



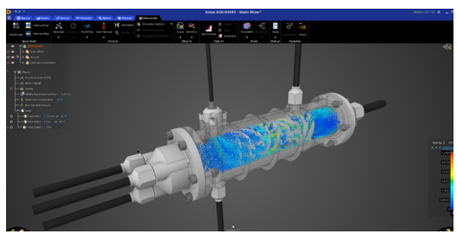
Explore multiple manufacturable designs in minutes through a fast and interactive experience, where you can define objectives easily and apply controls to ensure that manufacturing requirements are met, minimum material thicknesses are set and exclusion areas are defined.

"I absolutely love topology optimization, it's my favorite thing ever. We had this idea for a bottle cage that would be perfect to 3D print, but we never would have figured it out without Discovery."

— **Aram Goganian**
Chief Product Designer
Predator Cycling



Discovery accounts for porous media to evaluate porous materials such as filters, screens and perforated plates within a product design.



By combining interactive modeling and multiple simulation capabilities in a first-of-its-kind product, Discovery allows you to answer critical design questions earlier in the design process.

ANSYS, Inc.
www.ansys.com
ansysinfo@ansys.com
866.267.9724