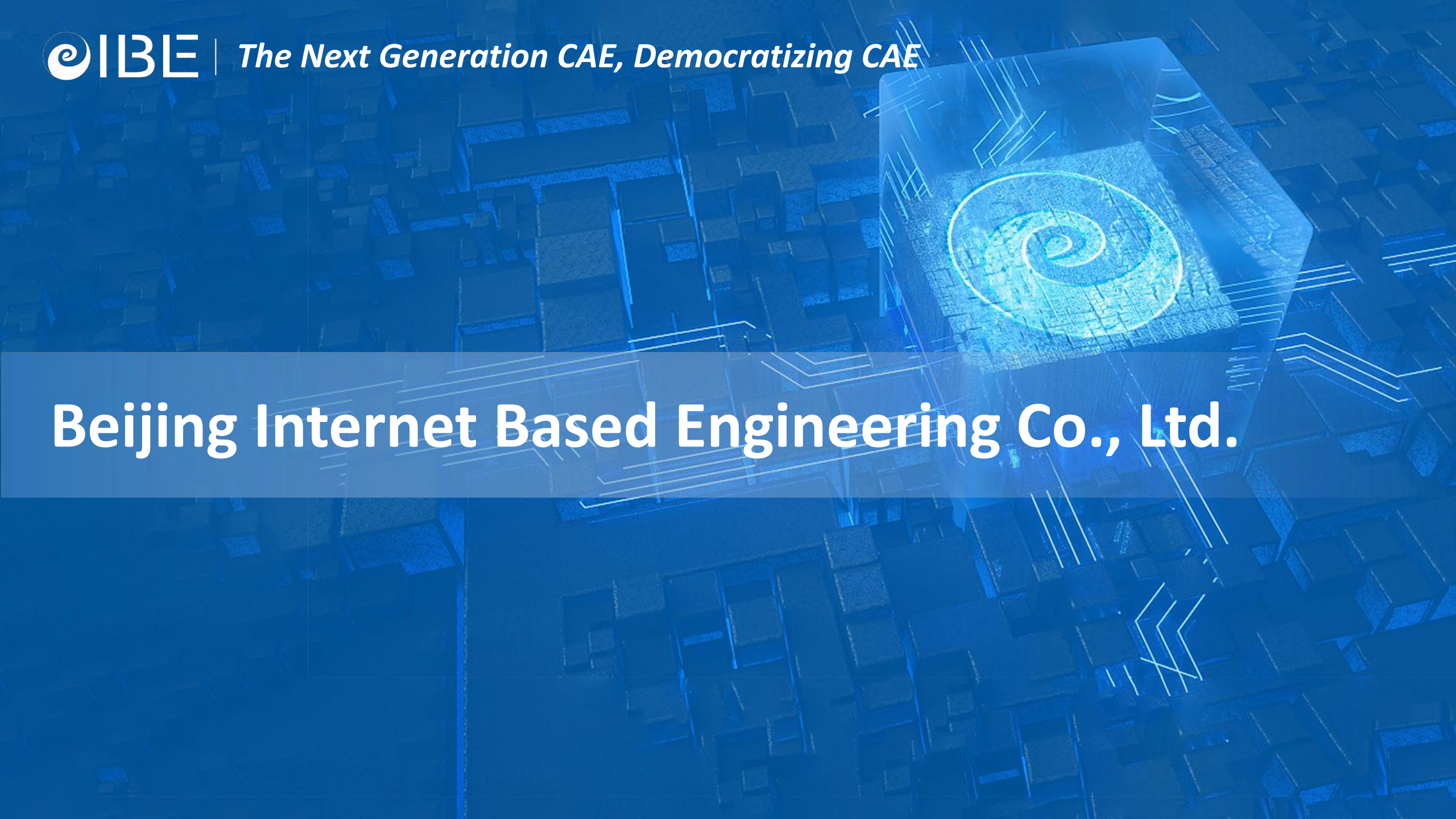
IBE | *The Next Generation CAE, Democratizing CAE*

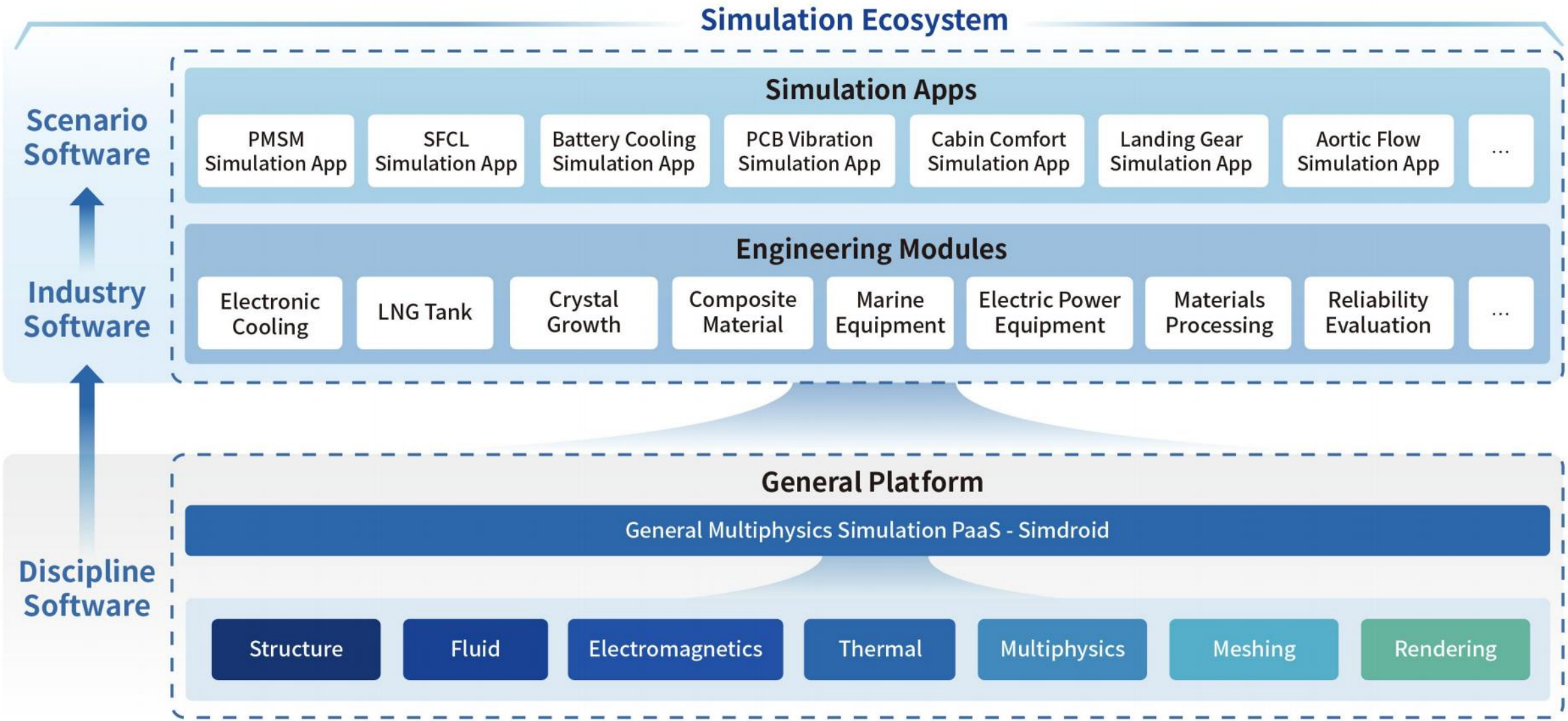


Beijing Internet Based Engineering Co., Ltd.

About IBE

- Founded in March 7, 2014
- The next generation CAE, Democratizing CAE
- *Hurun Global Gazelle* Company(2022)

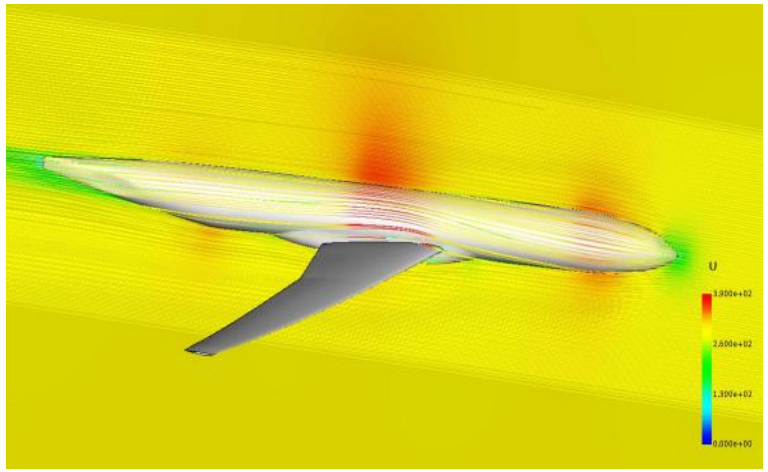
PaaS System Framework

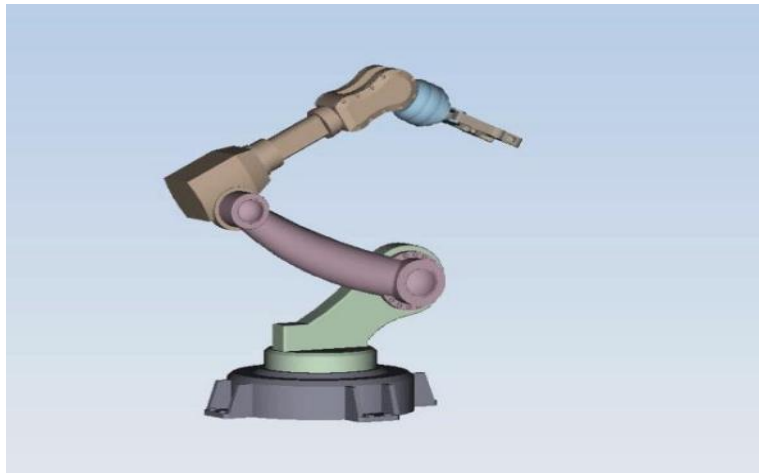


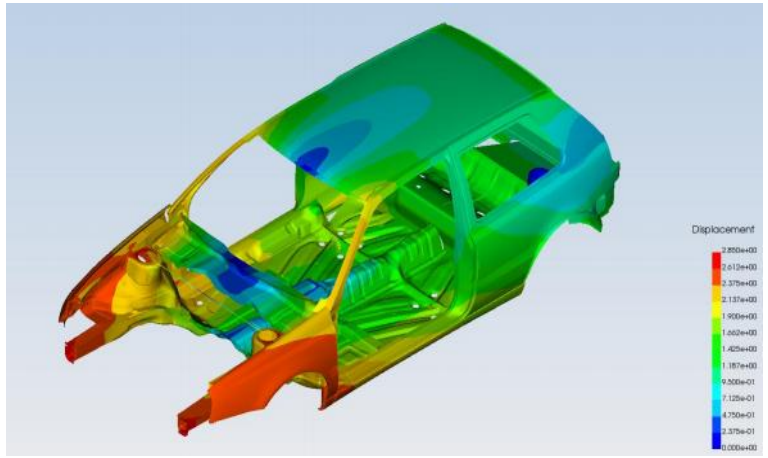
General Platform

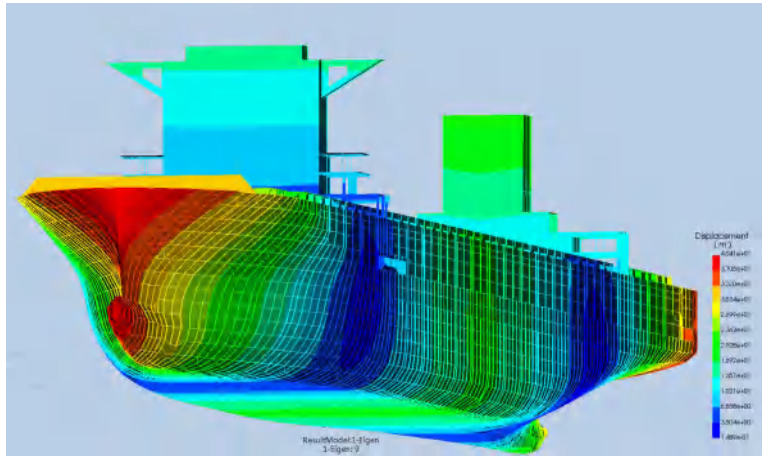
Simdroid: General Multiphysics Simulation PaaS

- Simdroid includes general solvers for structure, fluid, electromagnetics, thermal, etc., all independently developed by IBE.
- The Application Builder within Simdroid includes drag-and-drop functionality so that anyone can build simulation apps without programing language.





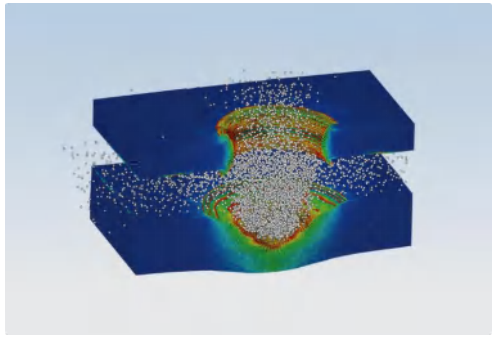




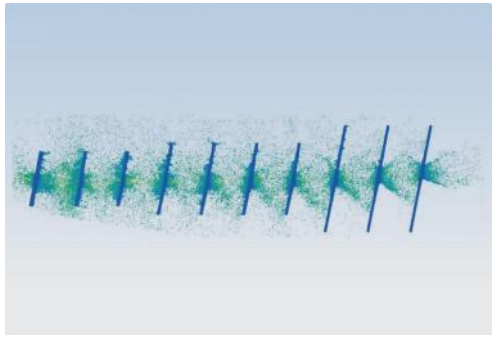
General Platform

Simdroid-MPM

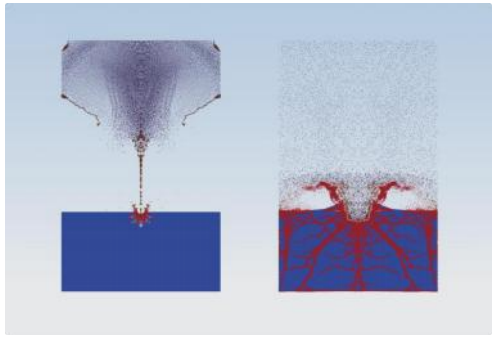
- Simdroid-MPM provides powerful modeling, discretizing, solving, and postprocessing tools in a unified and user-friendly environment. It is widely used for simulation of engineering challenges involving extreme deformations of structures and materials.



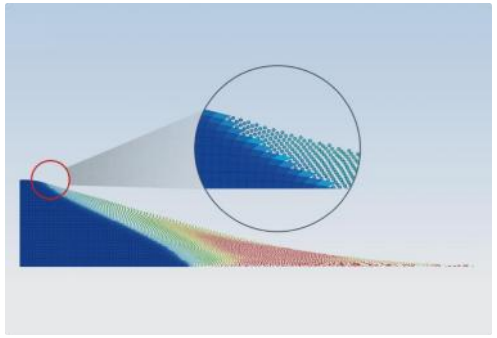
Hypervelocity impact



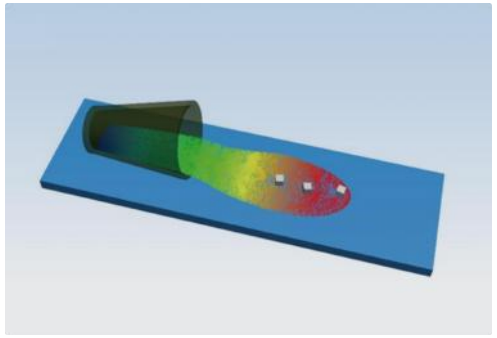
A projectile penetrating into multi-layered targets



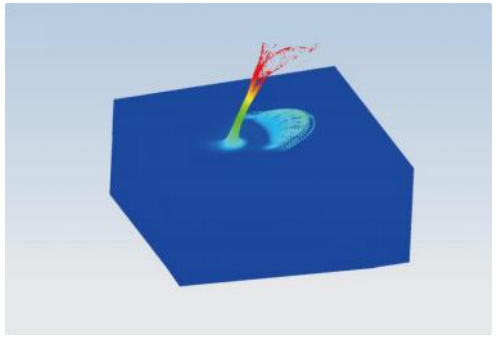
Shape-charged jetting impacts into rocks



Landslide



Overturnning of a water-filled container



Shape evolution of Worthington jets

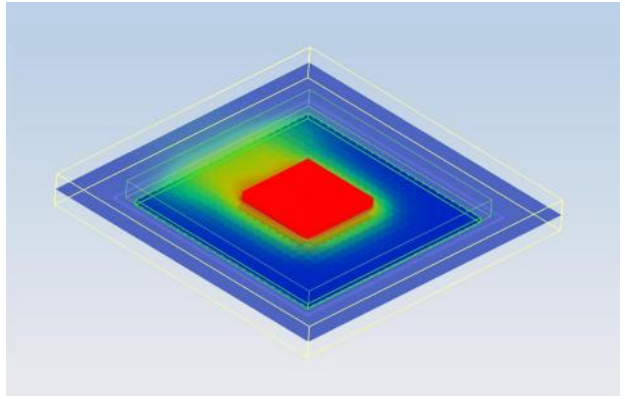
Applications

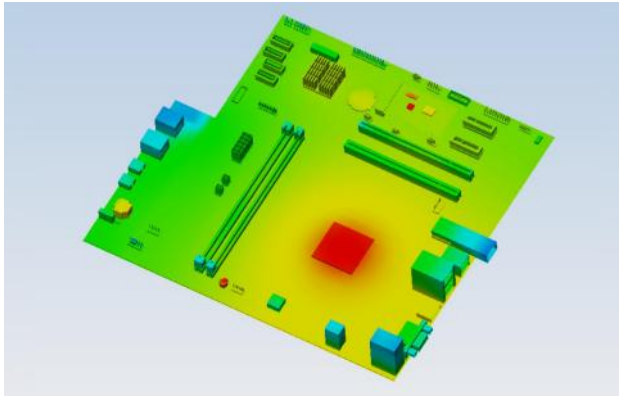
- ✓ Aerospace and aviation
- ✓ Automotive industry
- ✓ Mechanical engineering and manufacturing
- ✓ Energy and chemical sectors
- ✓ Construction and civil engineering
- ✓ Geological disaster research and mitigation
- ✓ Visual effects, animation and motion graphics

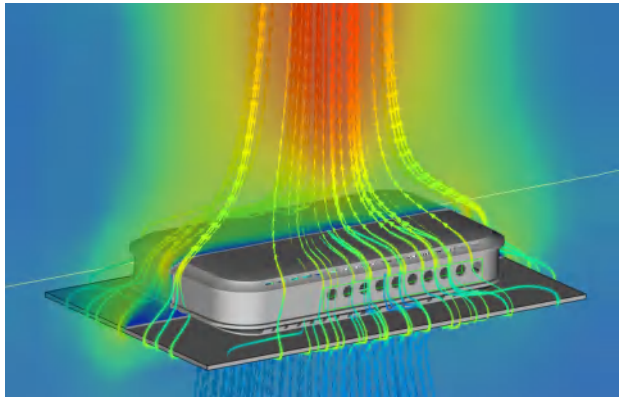
Engineering Modules

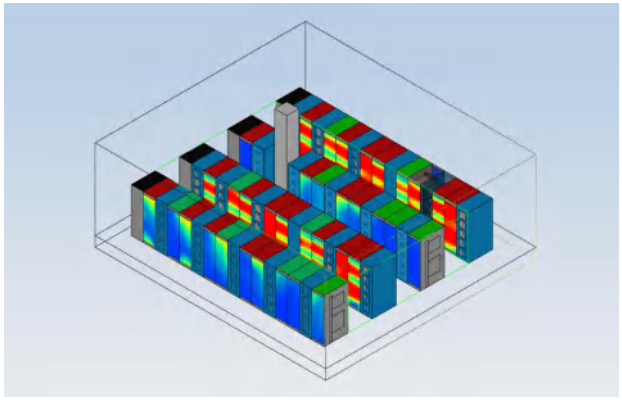
Simdroid-EC

- Simdroid-EC supports rapid modeling in a "building block" manner, enabling efficient and reliable thermal analysis of electronic products with mature and stable algorithms.









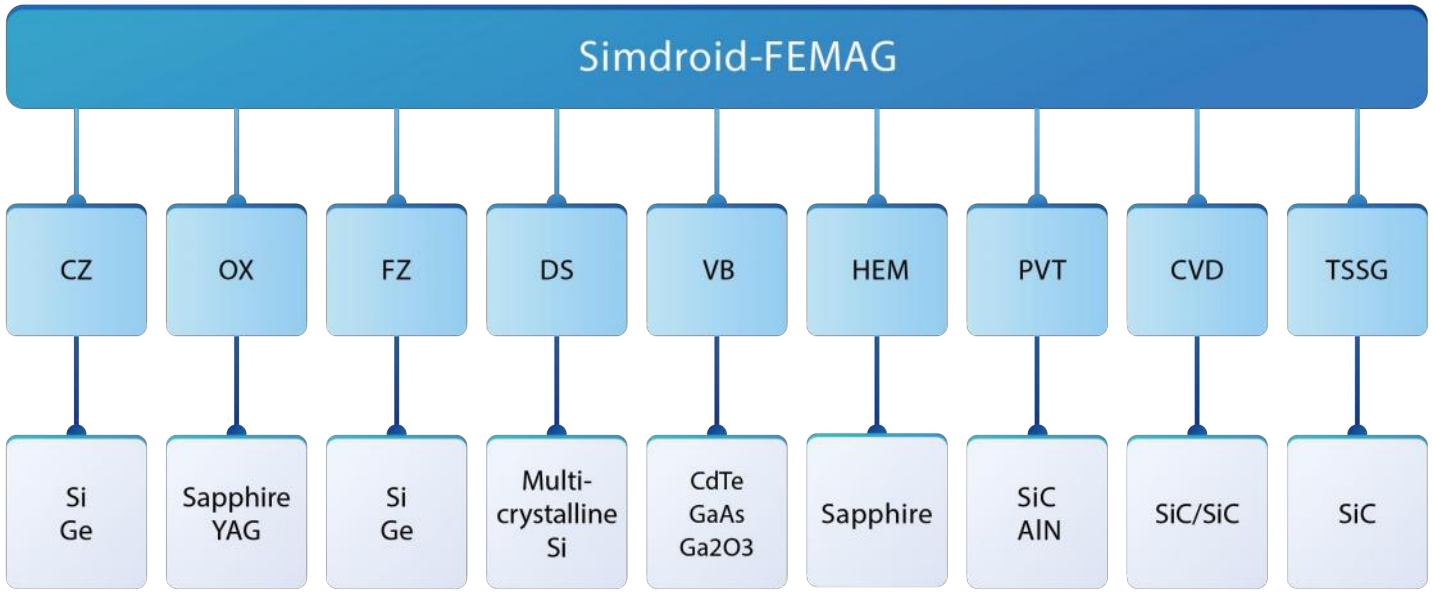
Application Scenarios

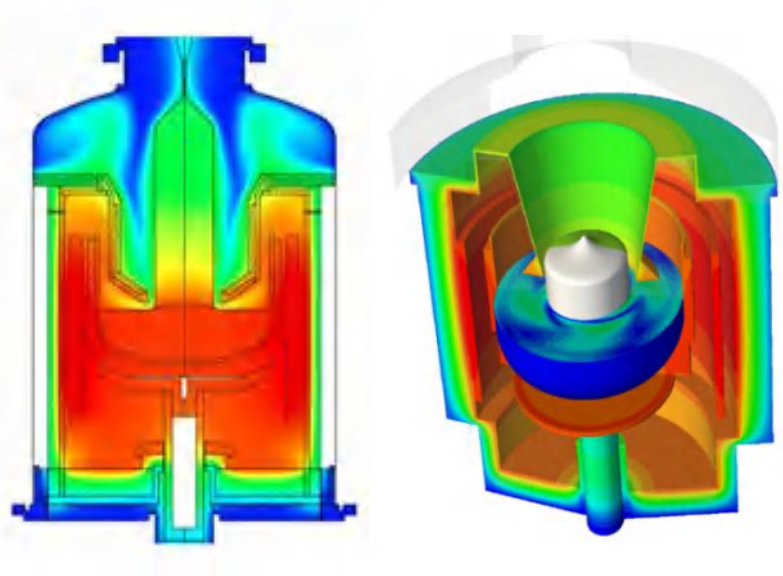
- ✓ Chip and package-level thermal design and analysis
- ✓ Optimization of thermal design for PCBs and modules
- ✓ Full-scale thermal simulation analysis for mobile phones, tablet PC, chassis, and cabinets
- ✓ Ventilation and thermal simulation for large data centers and system environments

Engineering Modules

Simdroid-FEMAG

- With internationally advanced, efficient, and comprehensive crystal growth simulation technology and coupled multiphysics simulation capabilities, it can simulate various crystal growth processes.

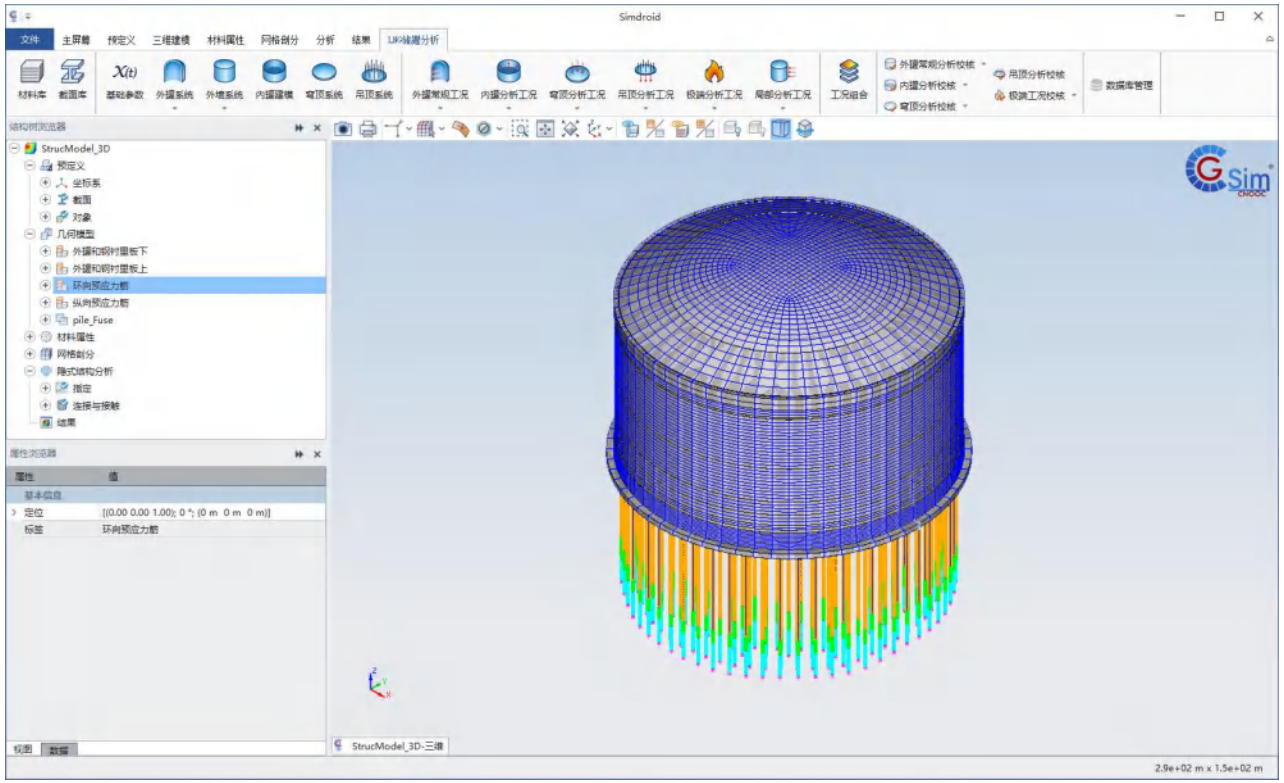


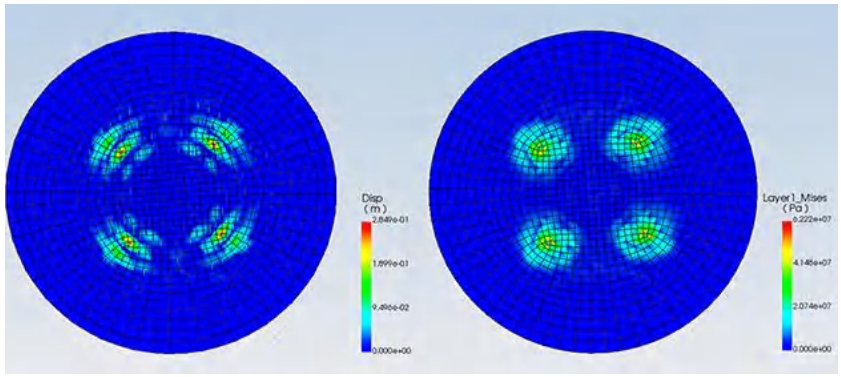


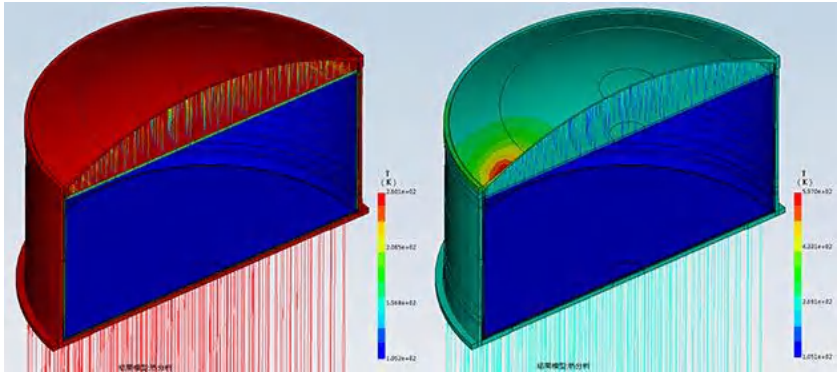
Engineering Modules

Simdroid-LNG

- Designed for LNG storage tank, it combines robust general functionalities with advanced specialized modules, facilitating seamless integration of parameterized modeling, automated simulation, and standardized verification protocols.



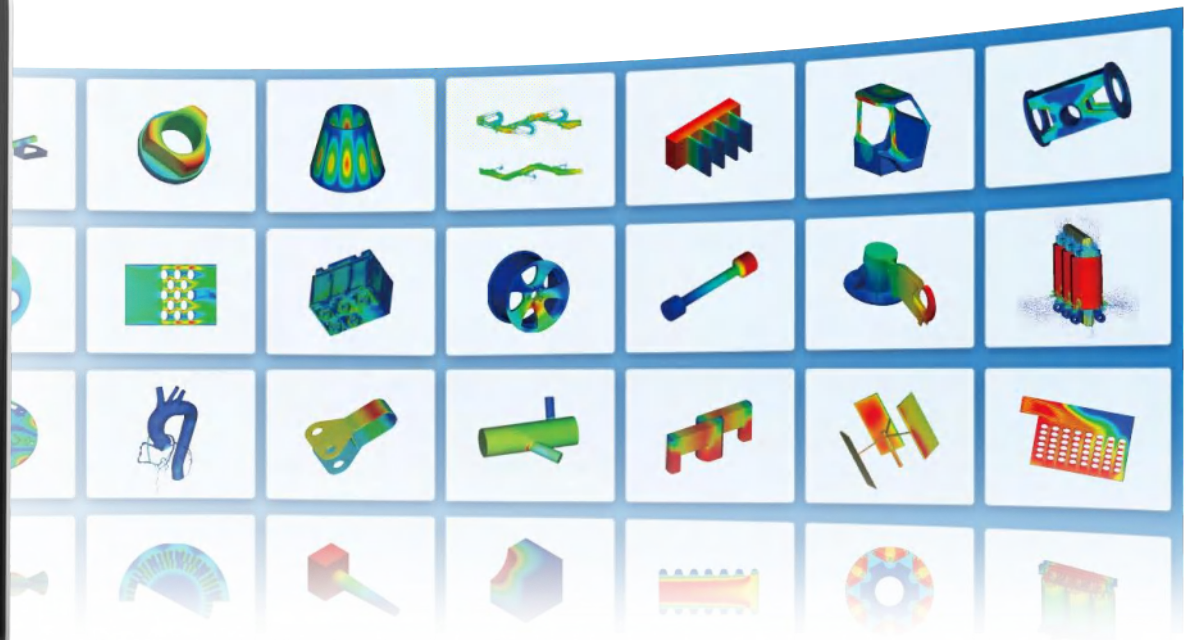




Simulation Apps

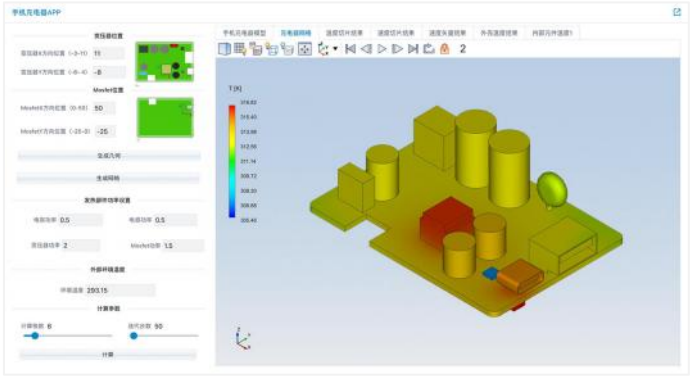
Simapps: Simulation App Store

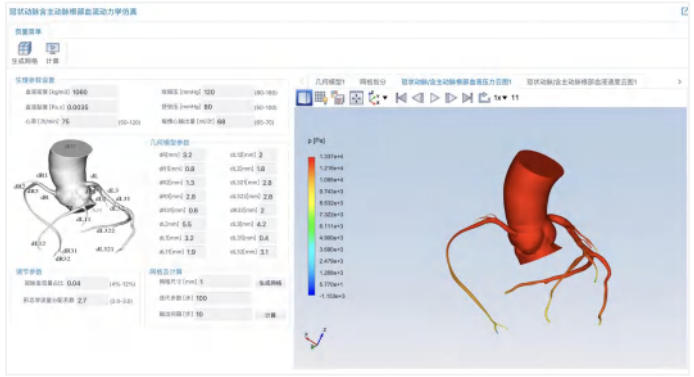
- It is a cloud-based simulation App Store.
- It has over 210,000 simulation apps for engineering and teaching.

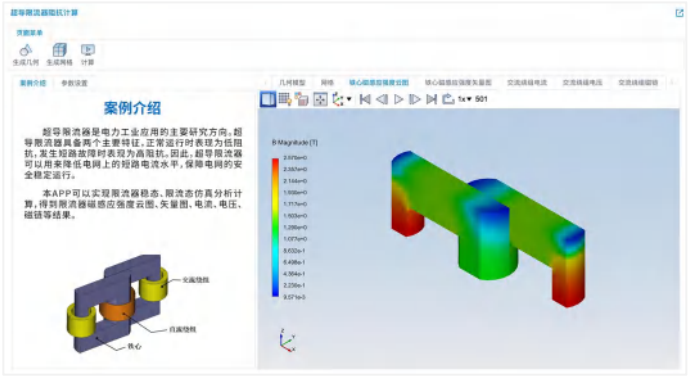


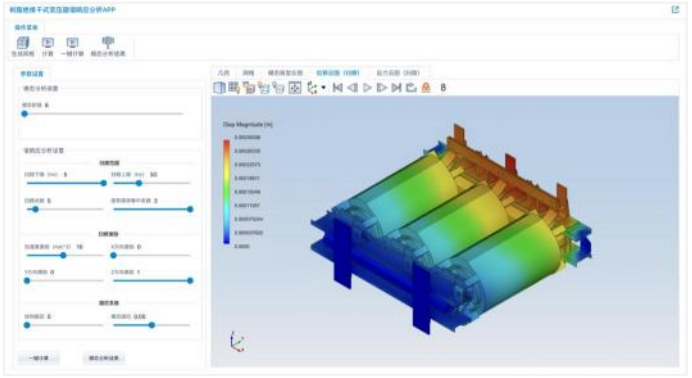
Simulation Apps

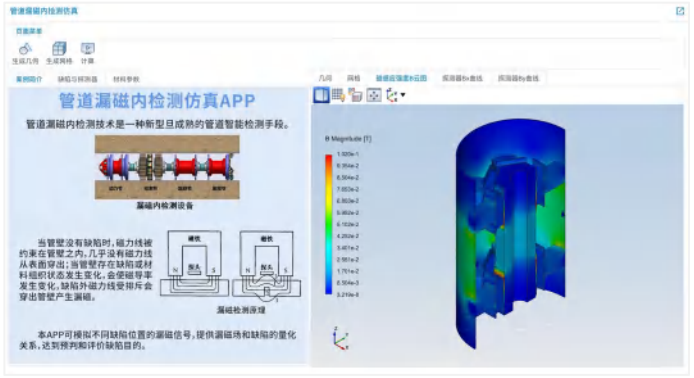
- **Simapps: Simulation App Store**
  - **Engineering Apps: Digital Twins**

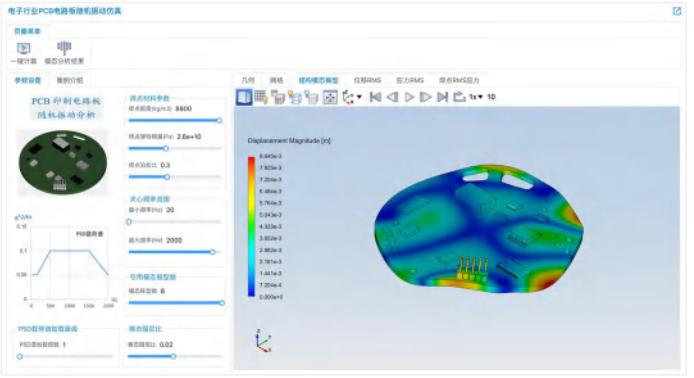








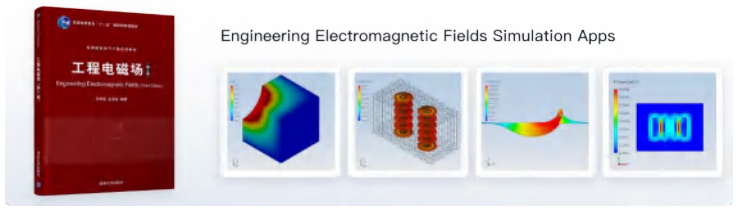


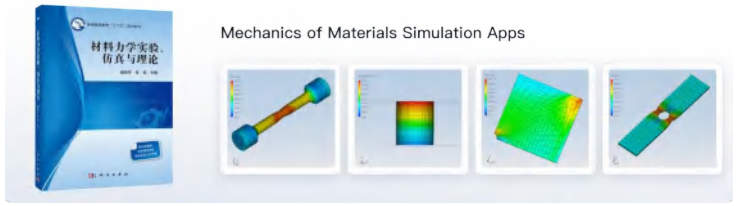


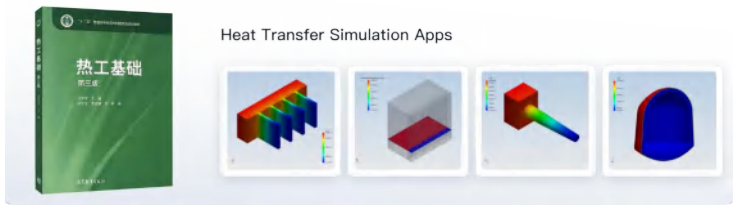
Simulation Apps

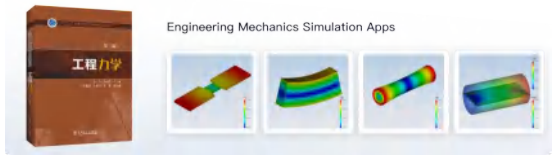
Simapps: Simulation App Store

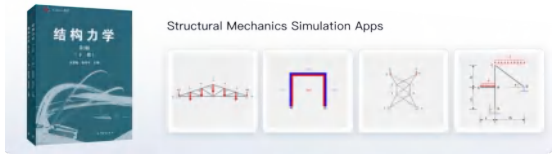
- Teaching Apps: Digital Teaching Materials

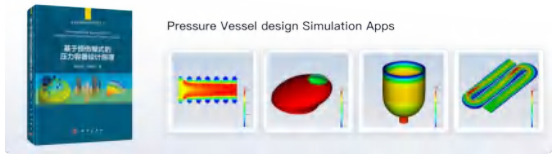


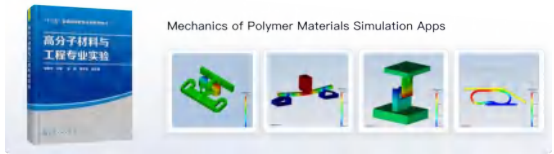








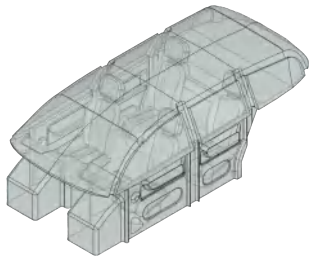




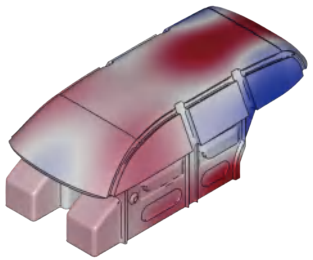
Cloud Platform

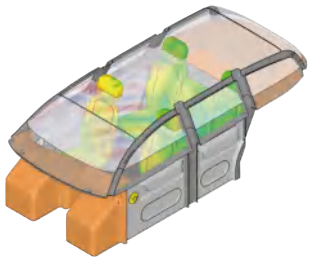
Simhub

- Based on cloud-native technology, it is an integrated system for online development, operation, and promotion of specialized simulation software in subdivision industries, supporting one-click deployment on private clouds.

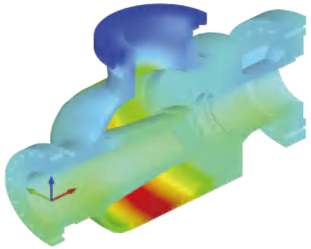

CAD Import & Edit

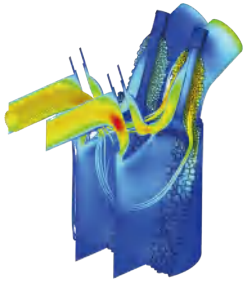
Mesh Generation

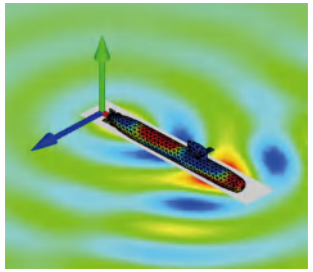

Solving Algorithms

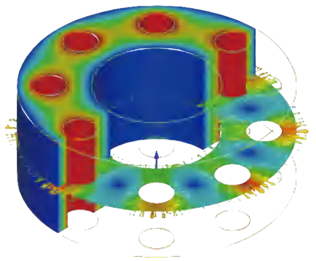

Post-Processing

Data Management


Structural Mechanics


Fluid Dynamics


Vibroacoustics


Electromagnetics

Multi-Body Dynamics

IBE

Platform： Simdroid — General Multiphysics Simulation PaaS

Product： Simapps — Scientific Computing Center