

Ansys

2022/R1

Engineering What's Ahead.

新技術線上研討會

4/8 (五)
14:00-14:40

Ansys Motion & MAXWELL NVH 耦合技術應用
新技術線上研討會

黃國豐

4/8 (五)
15:00-15:40

Ansys nCode DesignLife 新技術線上研討會
(高溫疲勞和潛變分析應用)

鄒明嘉

4/8 (五)
16:00-17:00

Ansys Discovery 新技術線上研討會

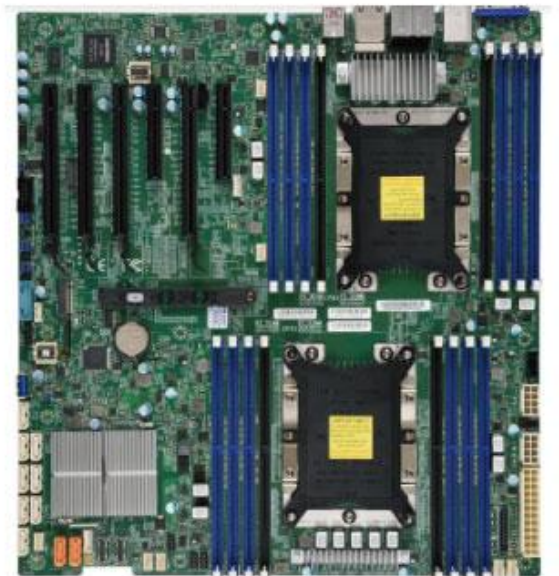
陳姿秀/吳承澤

NVIDIA QUADRO RTX 4000

即時即刻加速改變

透過 GPU 加速光線追蹤、深度學習和進階著色，滿足現今嚴苛的專業工作流程需求。採用 NVIDIA Turing™ 架構和 NVIDIA RTX™ 平台的 NVIDIA® Quadro RTX™ 4000，提供單插槽 PCI-e 尺寸同級最佳的效能與功能。加速獲得深入分析和解決方案的時間，以前所未有的方式設計與創造。

立即購買



美超微電腦

最佳CAE運算設備供應商
- 請洽虎門科技業務團隊 -

ANSYS Discovery 2022 R1 Introduction

Grace Chen 陳姿秀

Chengze Wu 吳承澤

Technical Assistant Engineer, Taiwan Auto-Design Co. (TADC)

D2, 9th Floor, No. 189, Section 1, Yongfu Rd, West Central District, Tainan City

Tel: +886 02 2956 7575

+886 06 2148 186

Fax: +886 02 956 5180

+886 06 2149 118

Lead your company into the next generation of Simulation-Driven Product Development.

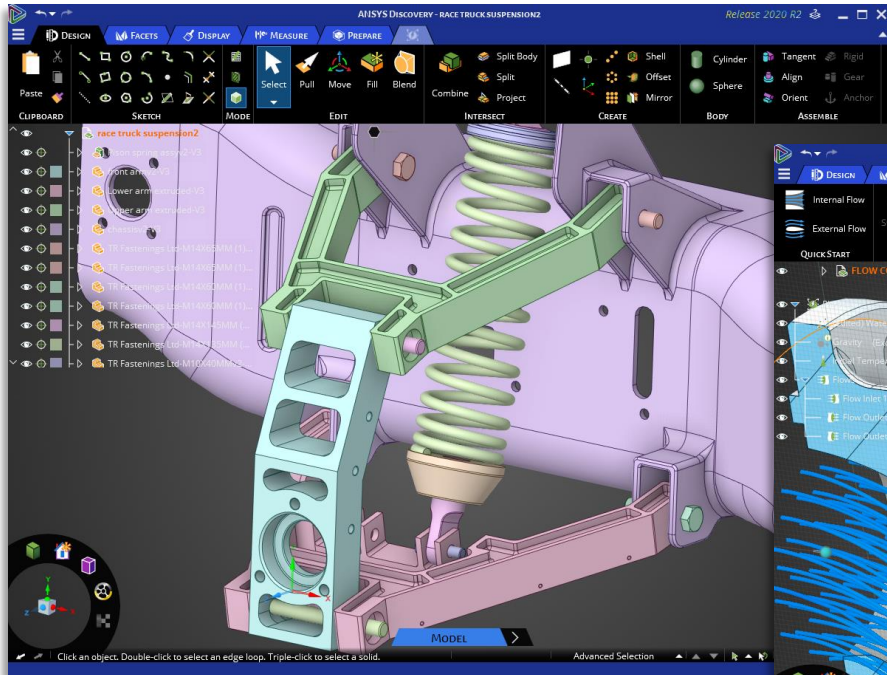
Visit www.ansys.com and www.cadmen.com for more information or contact.



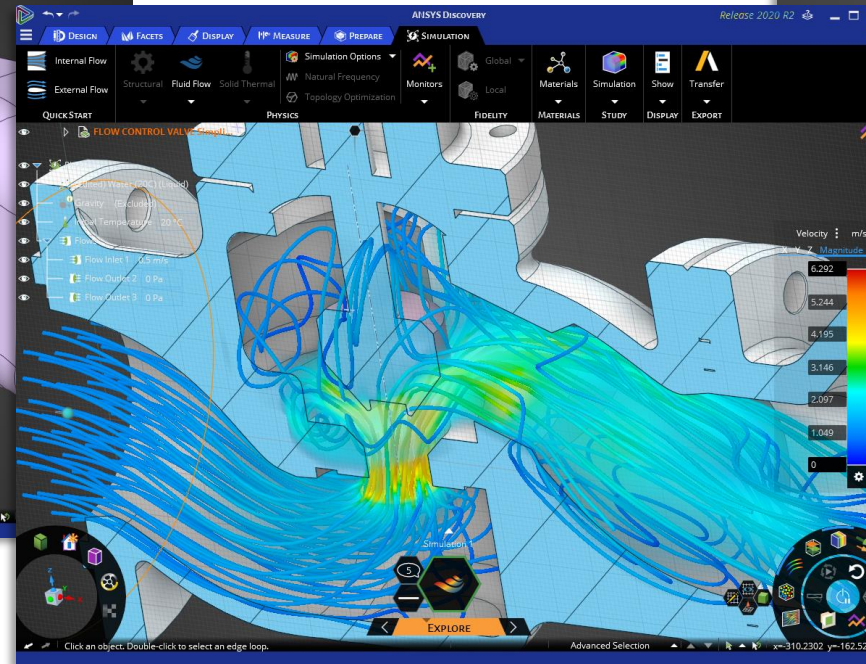
/ Agenda

- Introduction
- Example : Mechanical analysis – race truck suspension

What is Discovery?



Model Prep for Flagships

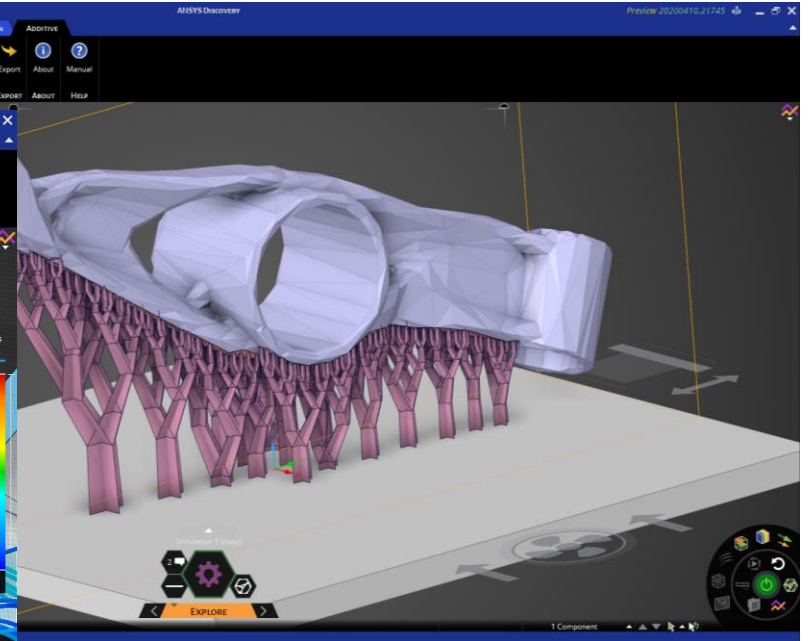


Simulation for Every Engineer

SpaceClaim geometry modeling

Live instant physics

Flagship physics (mapdl, Fluent)



Geometry Application Platform

- 即時性運算 (GPU)
- 直覺性操作



Design Engineer



1-3 days



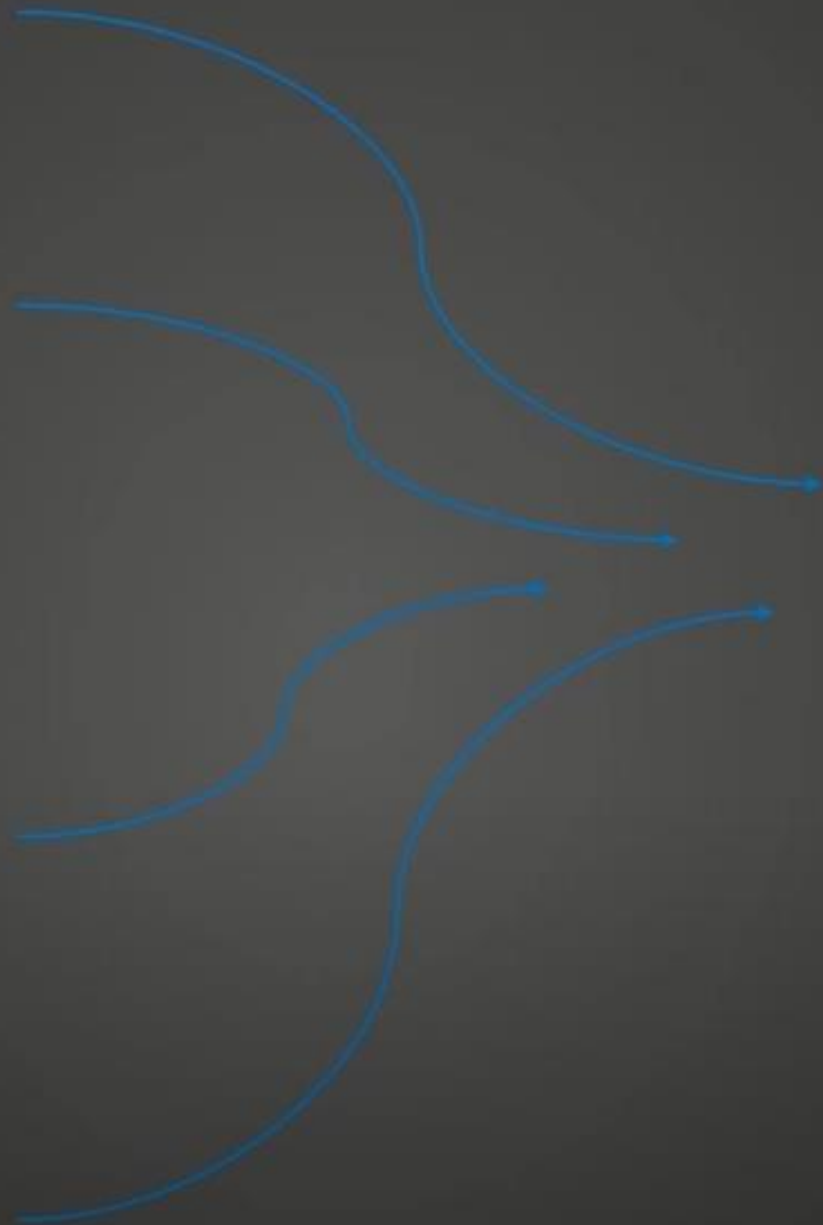
Expert Analyst



Design Engineer



Expert Analyst



Initial
Design

Optimization
Validation



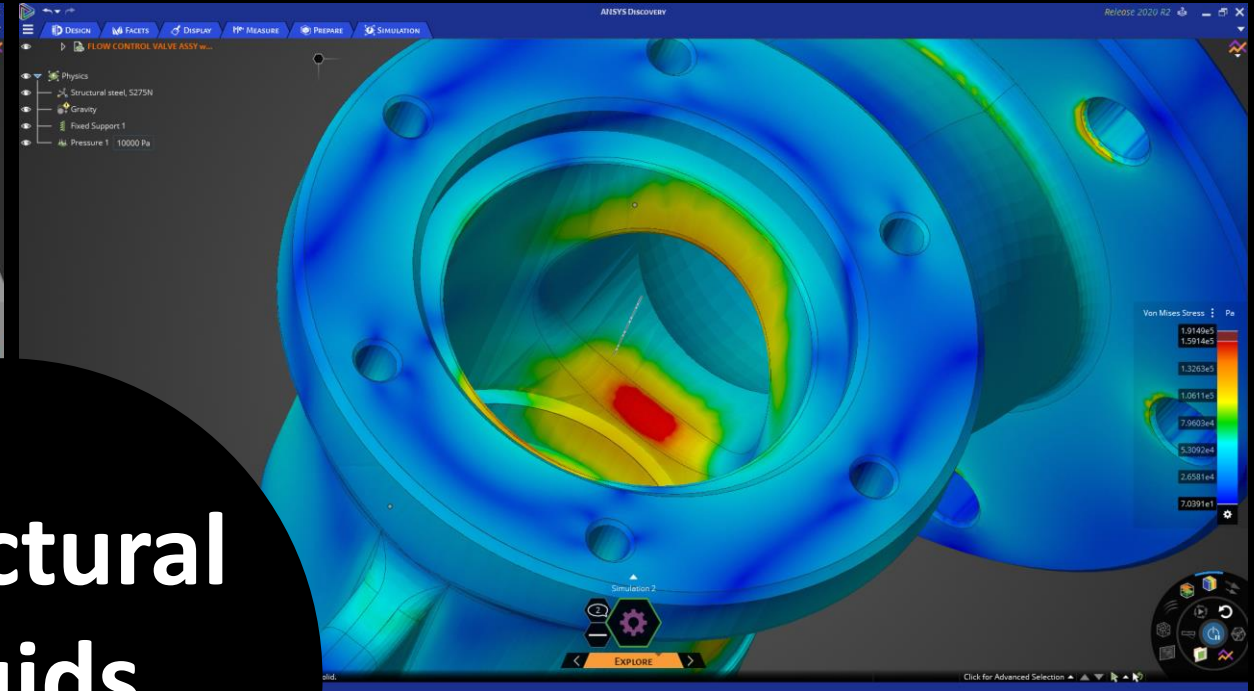
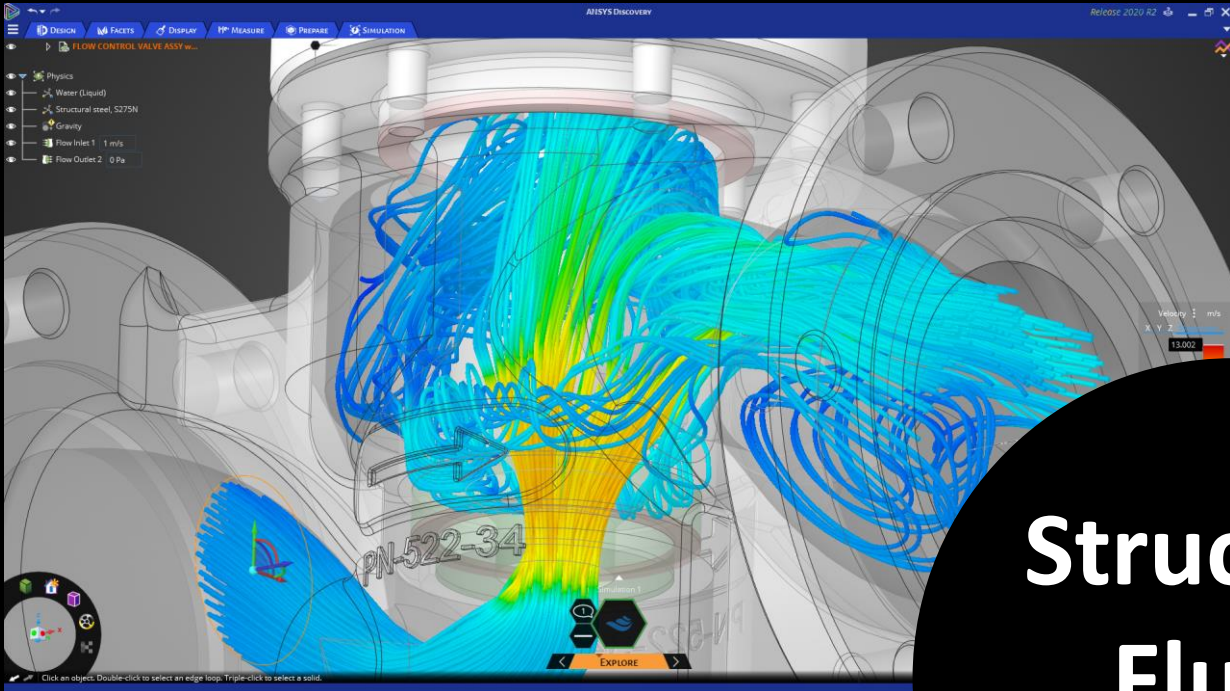
Design Engineer

ANSYS Discovery

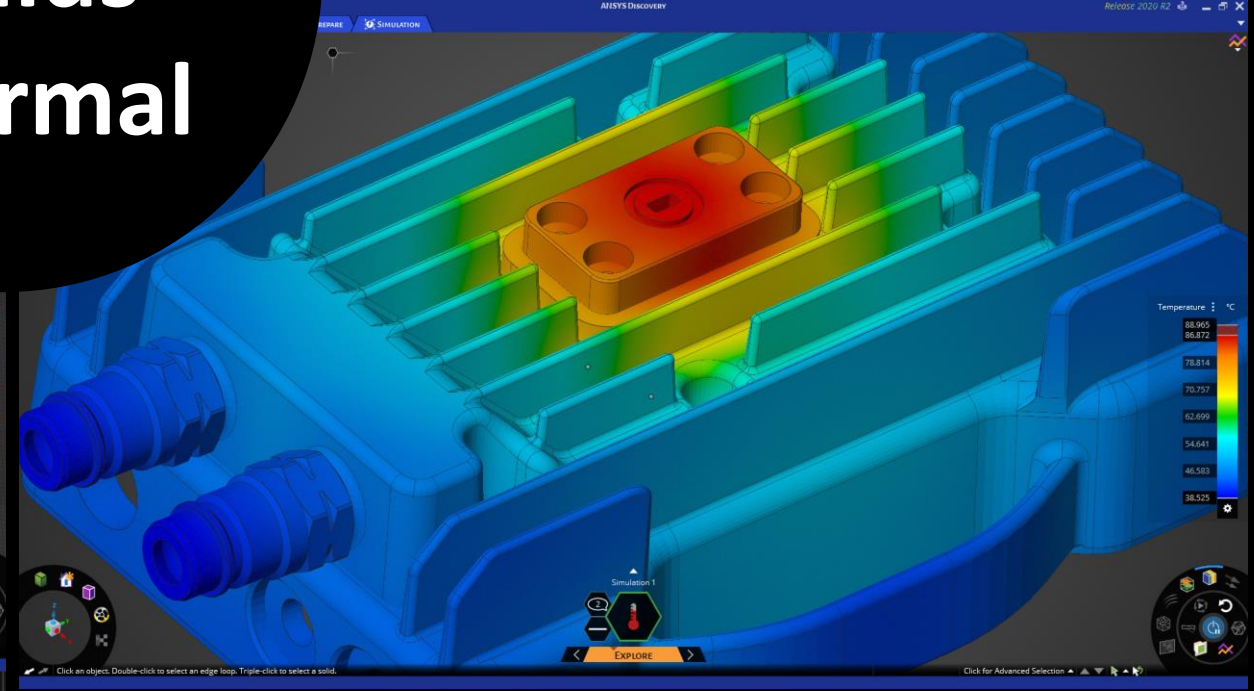
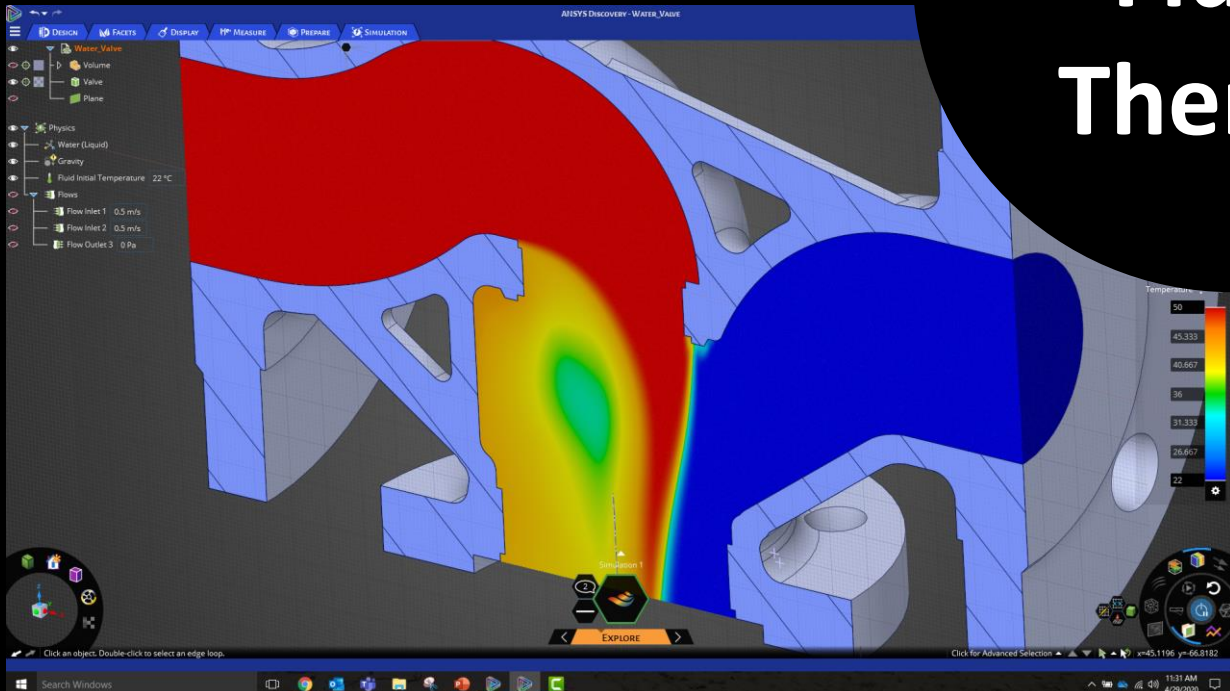


Expert Analyst

ANSYS Flagship



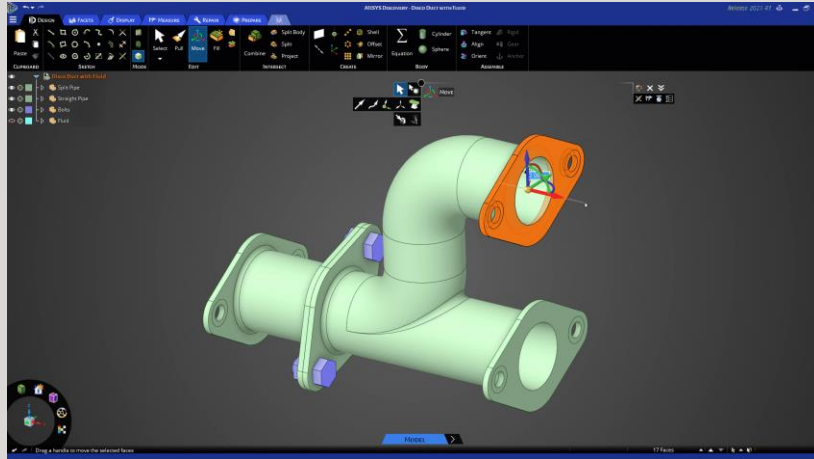
Structural Fluids Thermal



Key Capabilities

Fluids simulation example shown. Also applies to structural & thermal simulation.

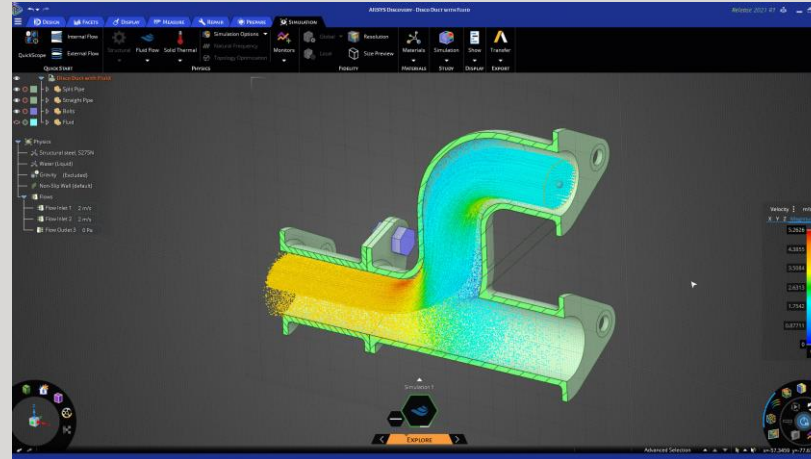
MODEL



Geometry prep & modeling

- Integrated SpaceClaim direct modeling technology
- Quickly prep CAD models for simulation

EXPLORE

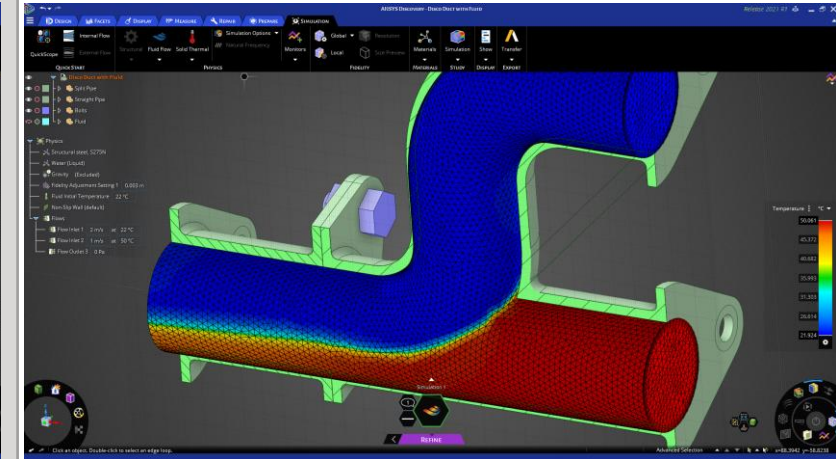


Real-time simulation

- Integrated GPU solver provides results in seconds
- Rapid design exploration

Requires dedicated Nvidia GPU

REFINE



High-fidelity simulation

- Integrated Ansys Mechanical & Ansys Fluent solvers
- Additional physics & greater accuracy

Requires additional license

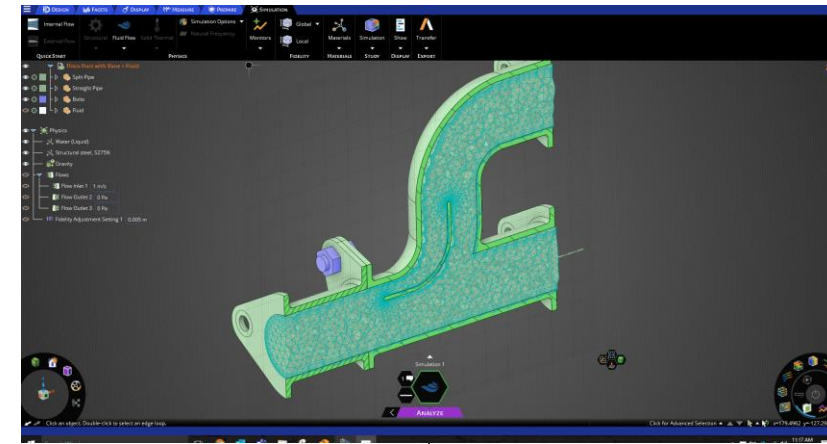
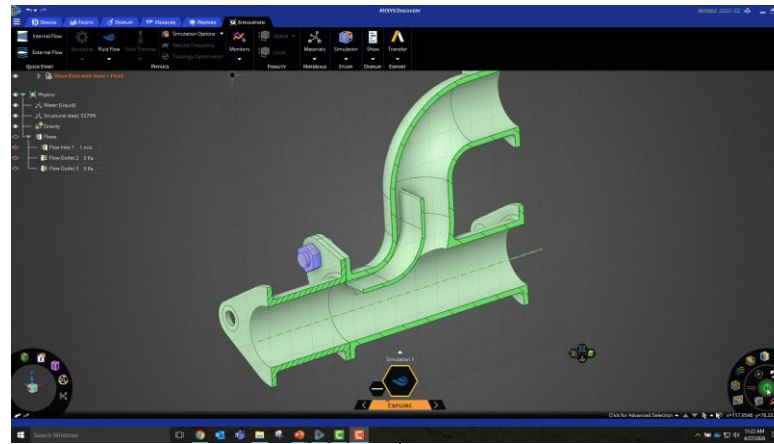
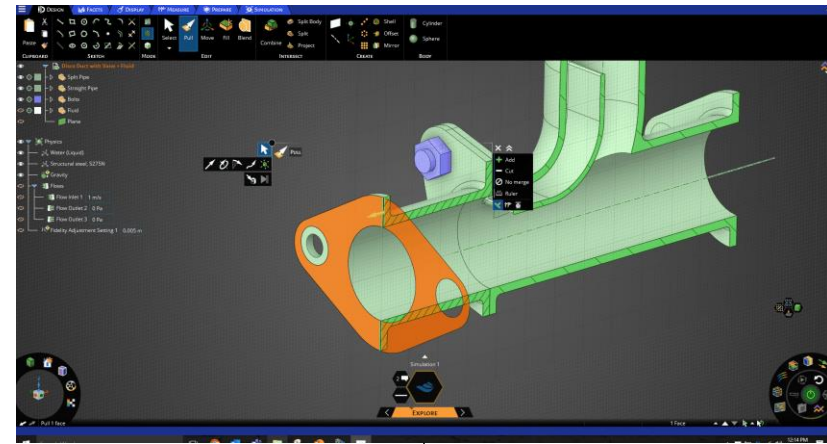


Package – Fluids Applications

Geometry modeling

Real time simulation

High fidelity simulation



Discovery

+

CFD Pro

or higher

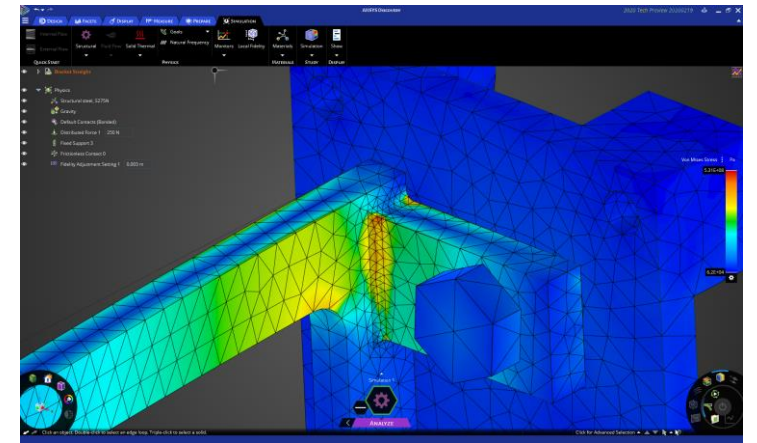
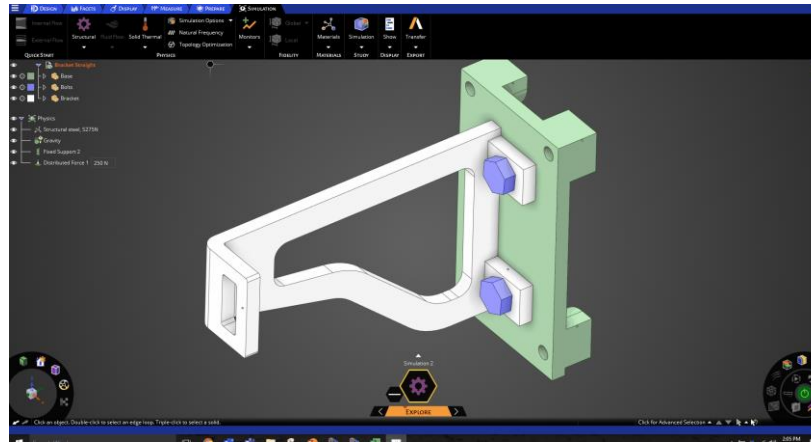
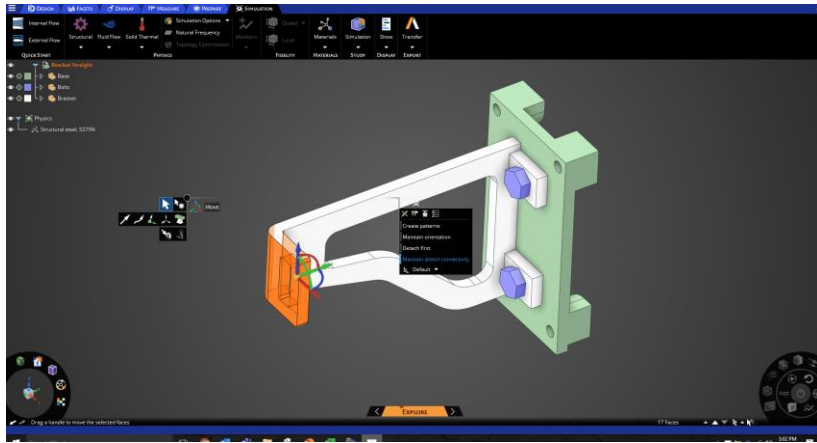
All of the above performed in the Discovery GUI

Package – Structural Applications

Geometry modeling

Real time simulation

High fidelity simulation



Discovery

+

Mech Pro

or higher

All of the above performed in the Discovery GUI

DESIGN FACETS DISPLAY MEASURE PREPARE SIMULATION

Paste Select Pull Move Fill Blend

CLIPBOARD SKETCH MODE EDIT INTERSECT CREATE BODY

Split Body Split Project Combine Shell Offset Mirror Cylinder Sphere

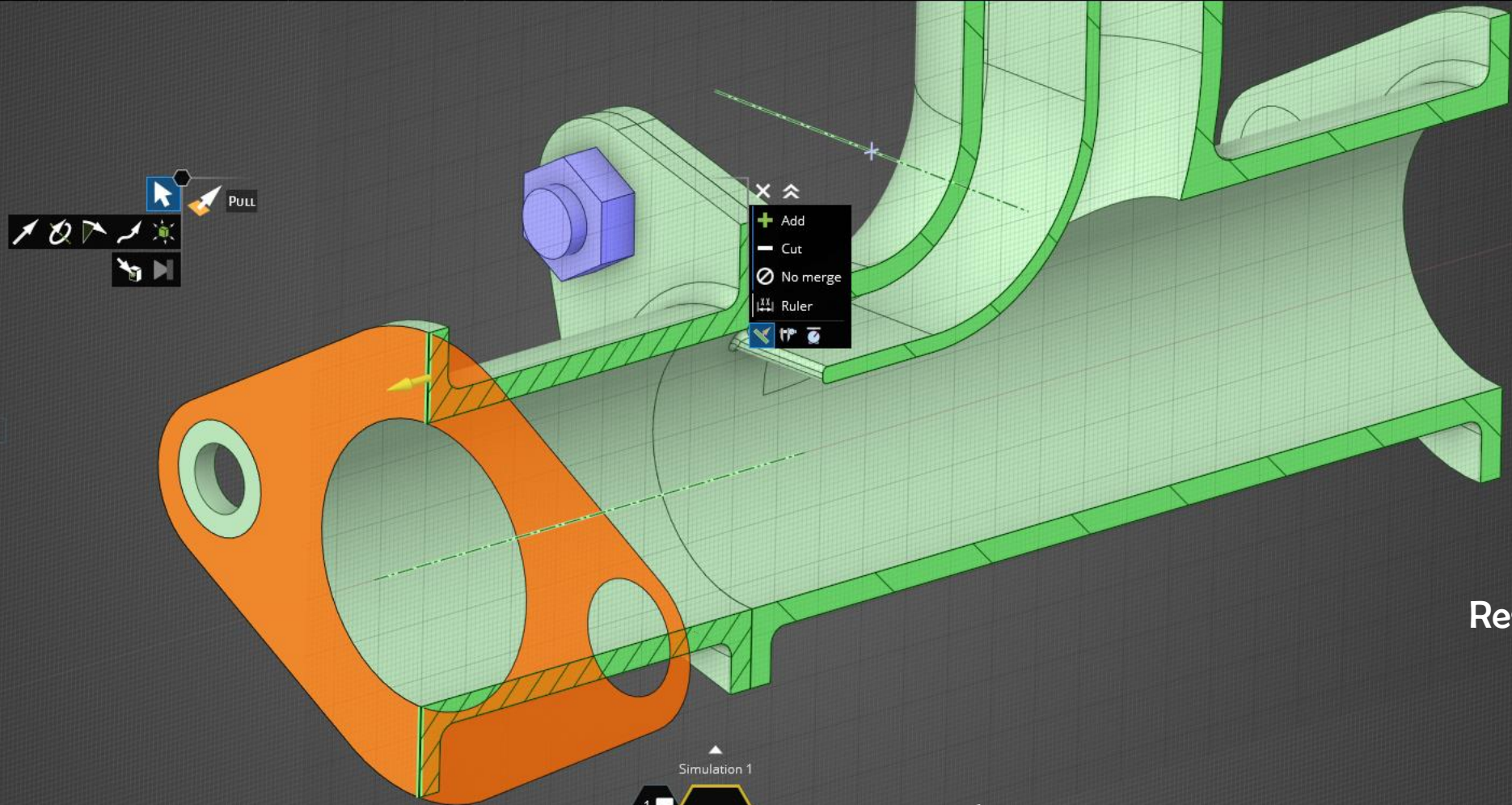
Full Spaceclaim functionality (almost)

Disco Duct with Vane + Fluid

- Split Pipe
- Straight Pipe
- Bolts
- Fluid
- Plane

Physics

- Water (Liquid)
- Structural steel, S275N
- Gravity
- Flows
 - Flow Inlet 1 1 m/s
 - Flow Outlet 2 0 Pa
 - Flow Outlet 3 0 Pa
- Fidelity Adjustment Setting 1 0.005 m



View controls

View controls: A circular toolbar containing icons for 3D view manipulation, including a 3D coordinate system (x, y, z) and a 'Pull 1 face' button.

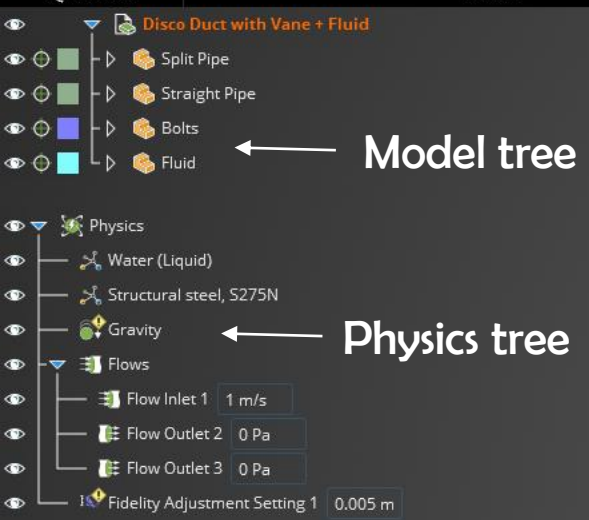
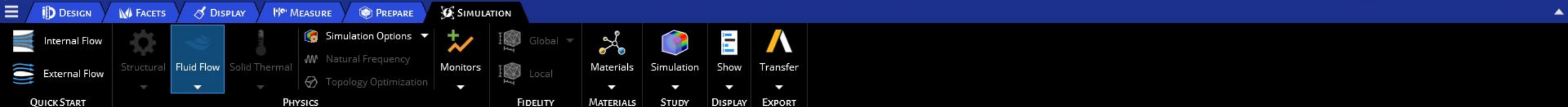
Results controls

Results controls: A circular toolbar containing icons for simulation results, including a power button, a refresh icon, and a 3D view icon.

Mode

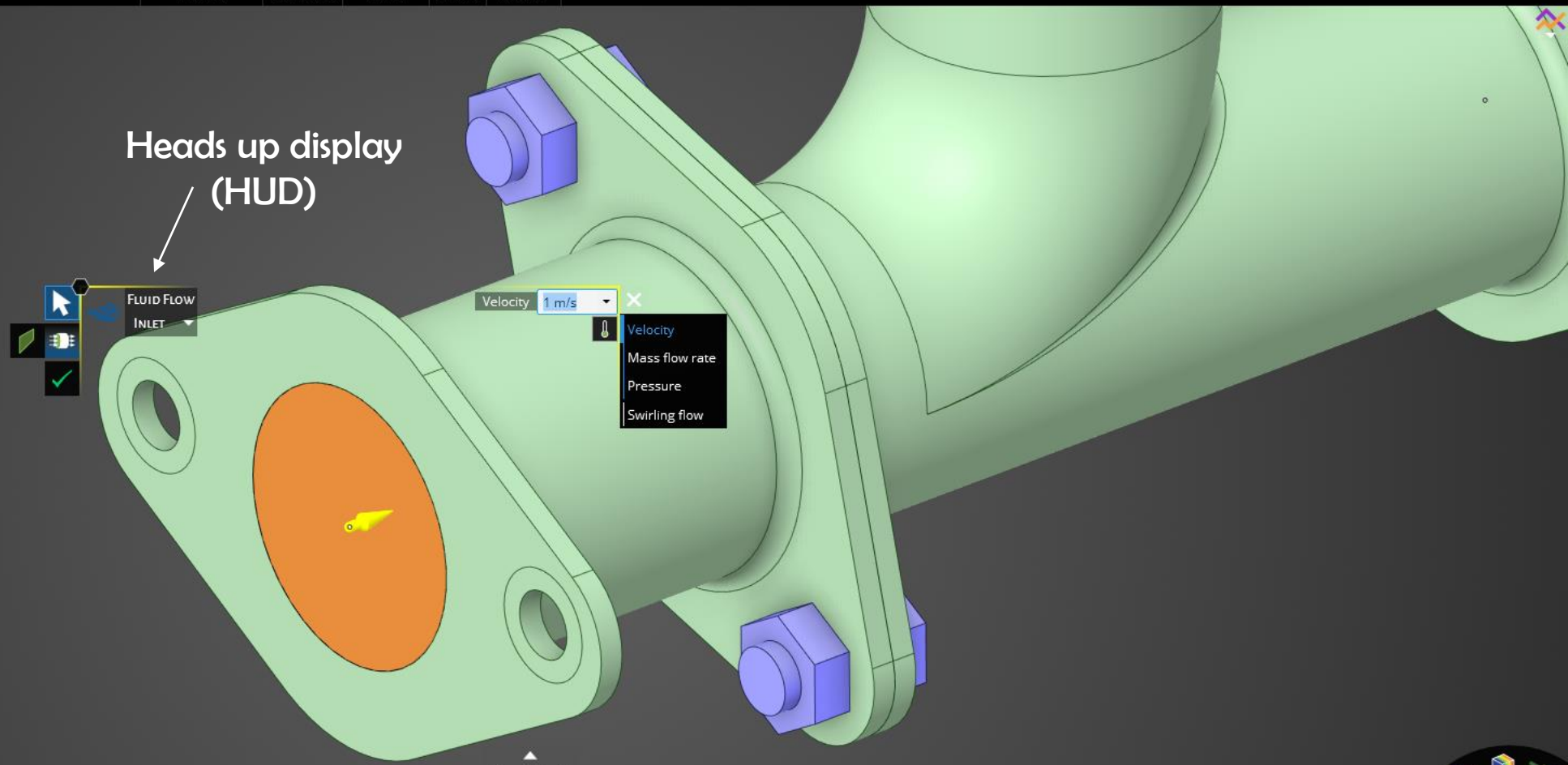
Simulation 1

Mode: A toolbar with a 'REFINE' button highlighted in purple.



Model tree

Physics tree



Heads up display (HUD)

Simulation information display (SID)

Instant GPU solver mode "Explore"



Select a face, or Ctrl-select multiple faces, then specify a rate of flow.

1 Face

DESIGN DISPLAY MEASURE FACETS REPAIR PREPARE SIMULATION

QuickScope Internal Flow External Flow Materials Structural Fluid Flow Solid Thermal Symmetry Review Simulation Options Natural Frequency Scene Monitors Size Preview Resolution Global Local Simulation Variations Show Mechanical Fluent

QUICK START PHYSICS RESULTS FIDELITY STUDY DISPLAY TRANSFER

2022 R1 - Getting Started - Stru...

- Chassis
- Struts
- Hardware
- A-Arms
- Upright
- Spindle

Physics

- Structural steel, S275N
- Gravity
- Structural
 - Distributed Force 2 20 N
 - Fixed Support 3
- Connections
 - Bonded Contacts (default)

Local & global mesh controls

Physics inputs preserved

Mesh visualization

Simulation 1

REFINE

Flagship solver mode "Analyze"

Advanced Selection

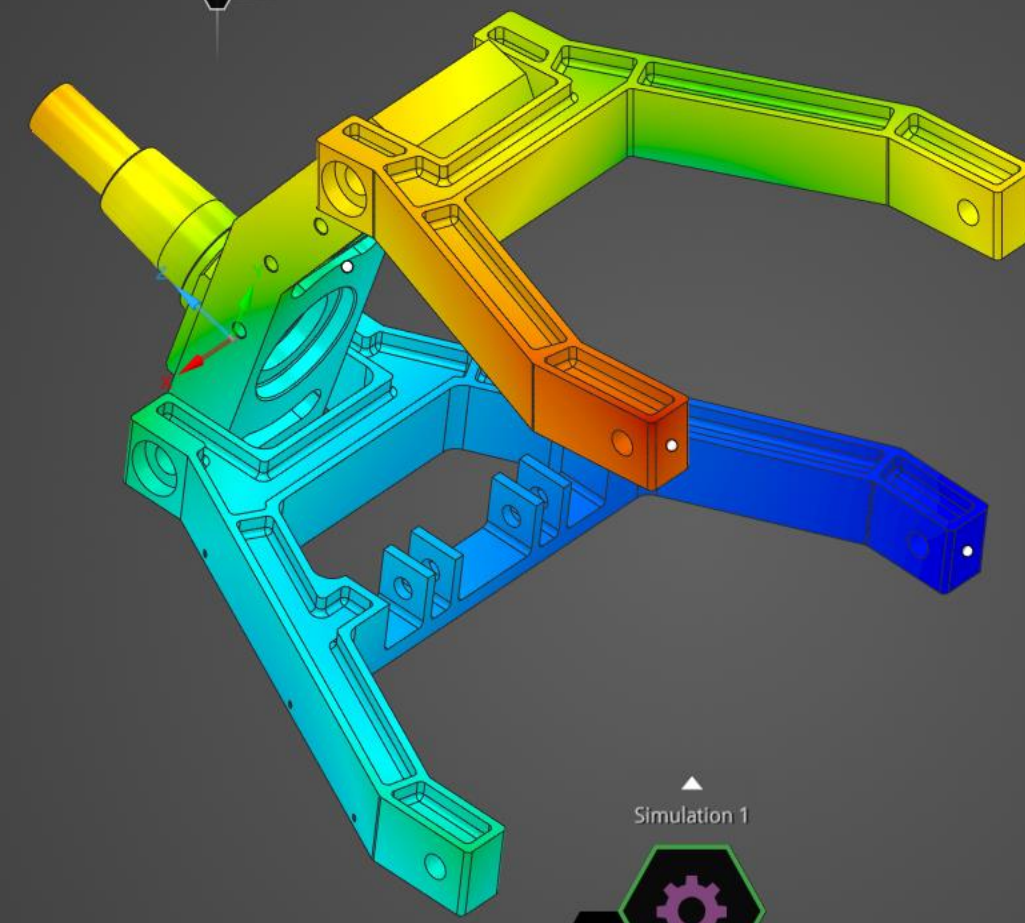
DESIGN DISPLAY MEASURE FACETS REPAIR PREPARE SIMULATION

QuickScope Internal Flow External Flow Materials Structural Fluid Flow Solid Thermal Symmetry Review Simulation Options Natural Frequency Scene Monitors Size Preview Resolution Global Local Simulation Variations Show Mechanical Fluent

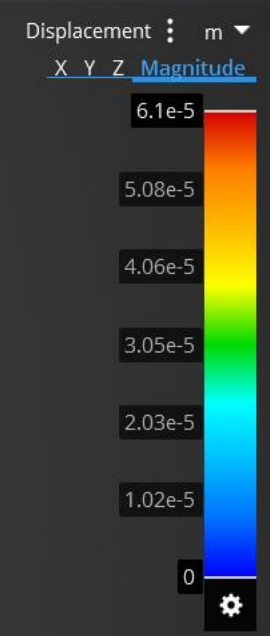
QUICK START PHYSICS RESULTS FIDELITY STUDY DISPLAY TRANSFER

- 2022 R1 - Getting Started - Stru...
- Chassis
- Struts
- Hardware
- A-Arms
- Upright
- Spindle

- Physics
 - Structural steel, S275N
 - Gravity
 - Structural
 - Distributed Force 2 20 N
 - Fixed Support 3
 - Connections
 - Bonded Contacts (default)



Transfer to Fluent / Mechanical



Simulation 1

REFINE

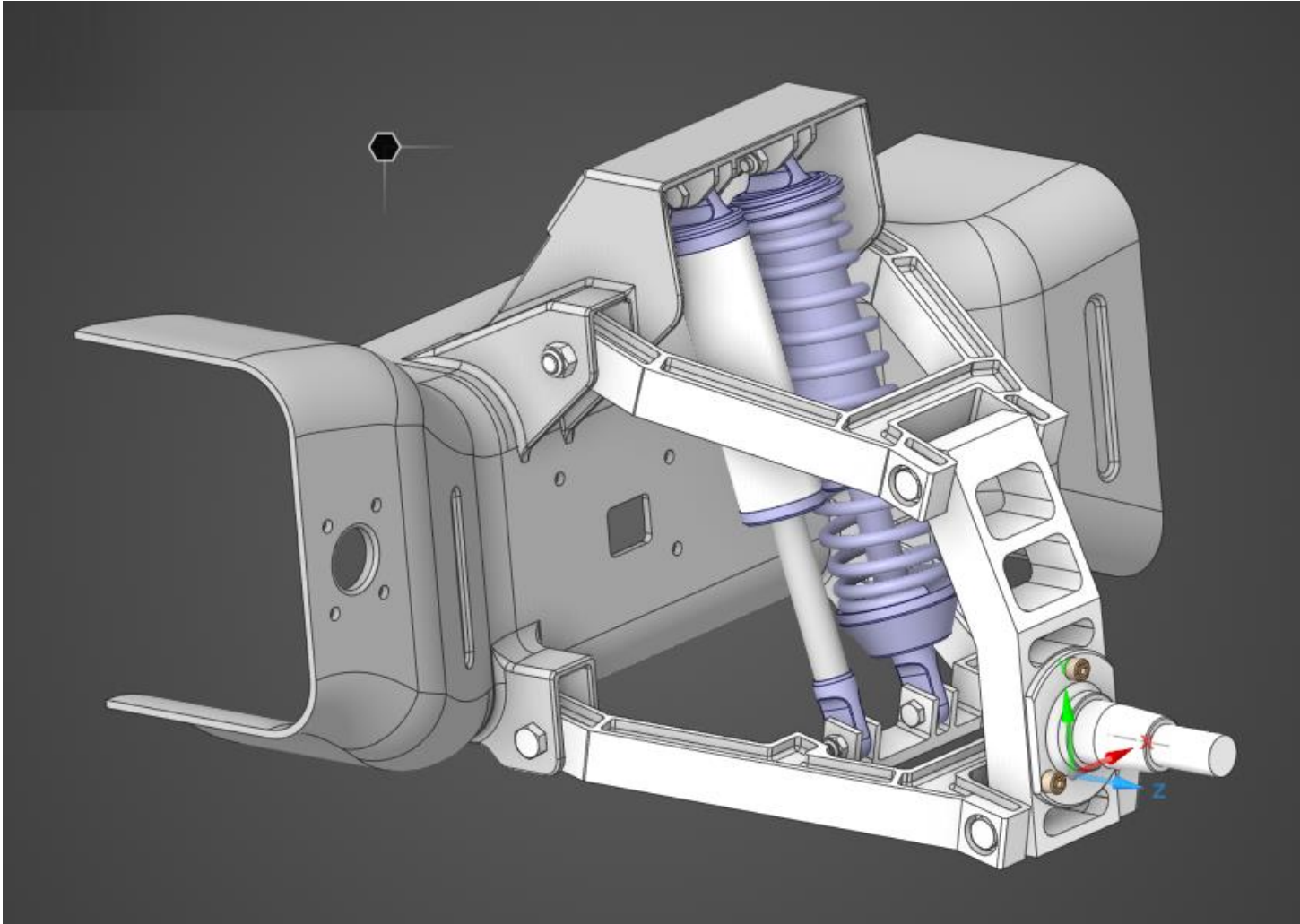
Click an object. Double-click to select an edge loop. Triple-click to select a solid.

Advanced Selection

Example



Mechanical analysis – race truck suspension



- 靜力分析
- 模態分析
- 參數化分析

2022R1 新功能展示

- 抽中面
- Hinged support
- 後處理

Ansys

2022/R1

Engineering What's Ahead.

新技術線上研討會

CAD MEN
Taiwan Auto-Design Co. (TADC)
虎門科技股份有限公司



NVIDIA QUADRO RTX 4000

即時即刻加速改變

透過 GPU 加速光線追蹤、深度學習和進階着色，滿足現今嚴苛的專業工作流程需求。採用 NVIDIA Turing™ 架構和 NVIDIA RTX™ 平台的 NVIDIA® Quadro RTX™ 4000，提供單插槽 PCI-e 尺寸同級最佳的效能與功能。加速獲得深入分析和解決方案的時間，以前所未有的方式設計與創造。

立即購買



最佳CAE運算設備供應商
- 請洽虎門科技業務團隊 -