# CREO SIMULATION LIVE

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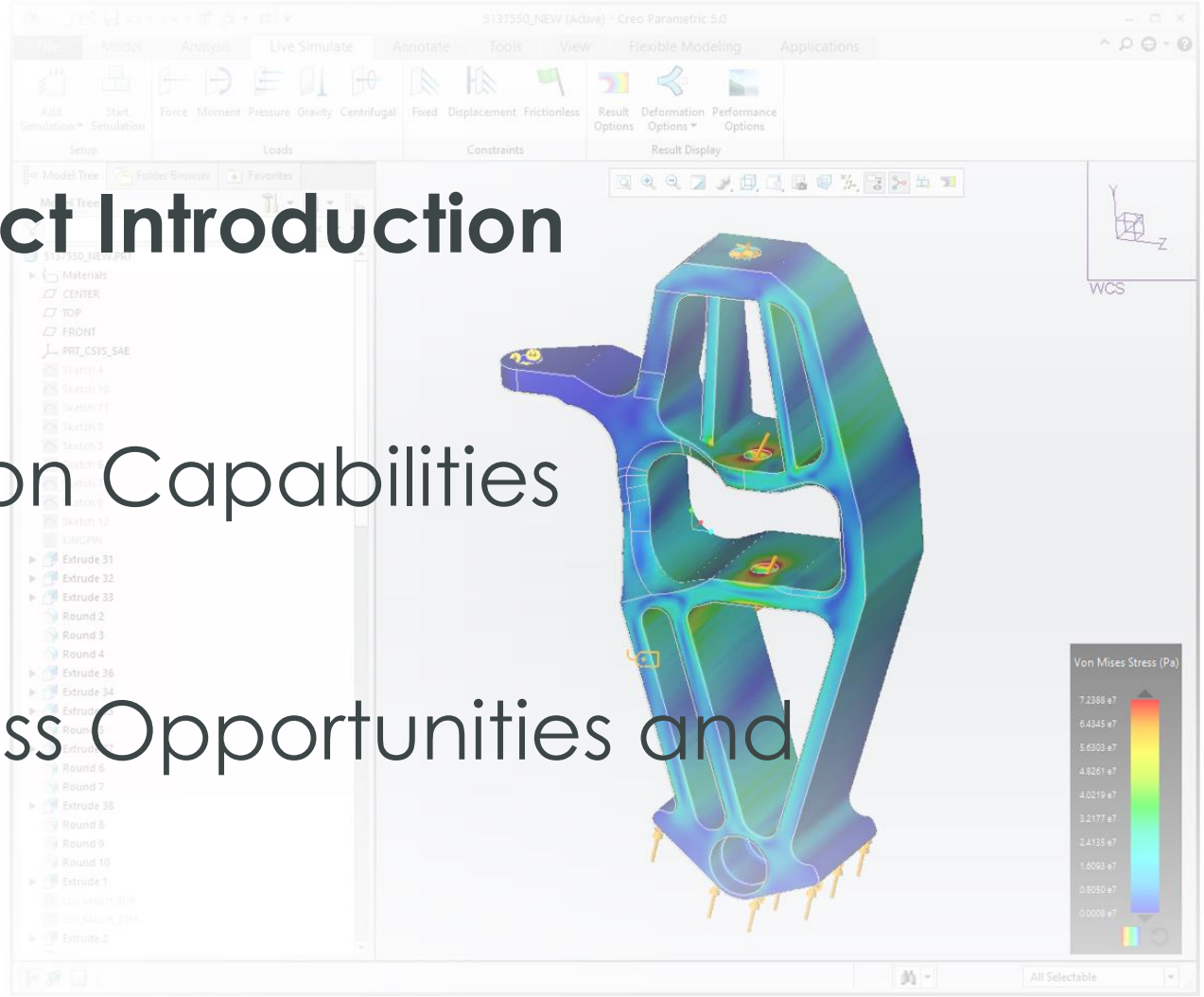
# AGENDA

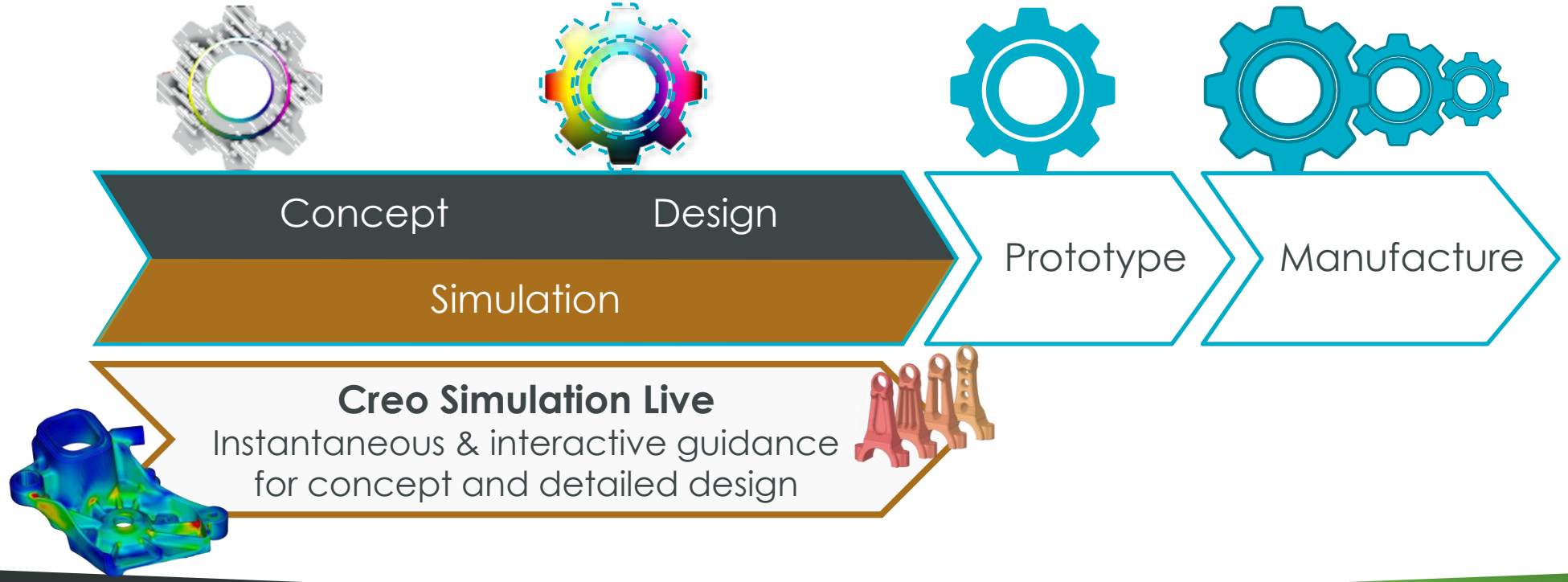
- **Product Introduction**
- Solution Capabilities
- Process Opportunities and Value



# PRODUCT INTRODUCTION

## What is Creo Simulation Live?

- Creo Simulation Live is the integration of ANSYS technology into Creo. The solution provides real-time analysis results for static structural, thermal and modal (vibration) simulation.
  - An additional extension will provide fluid flow simulation capabilities

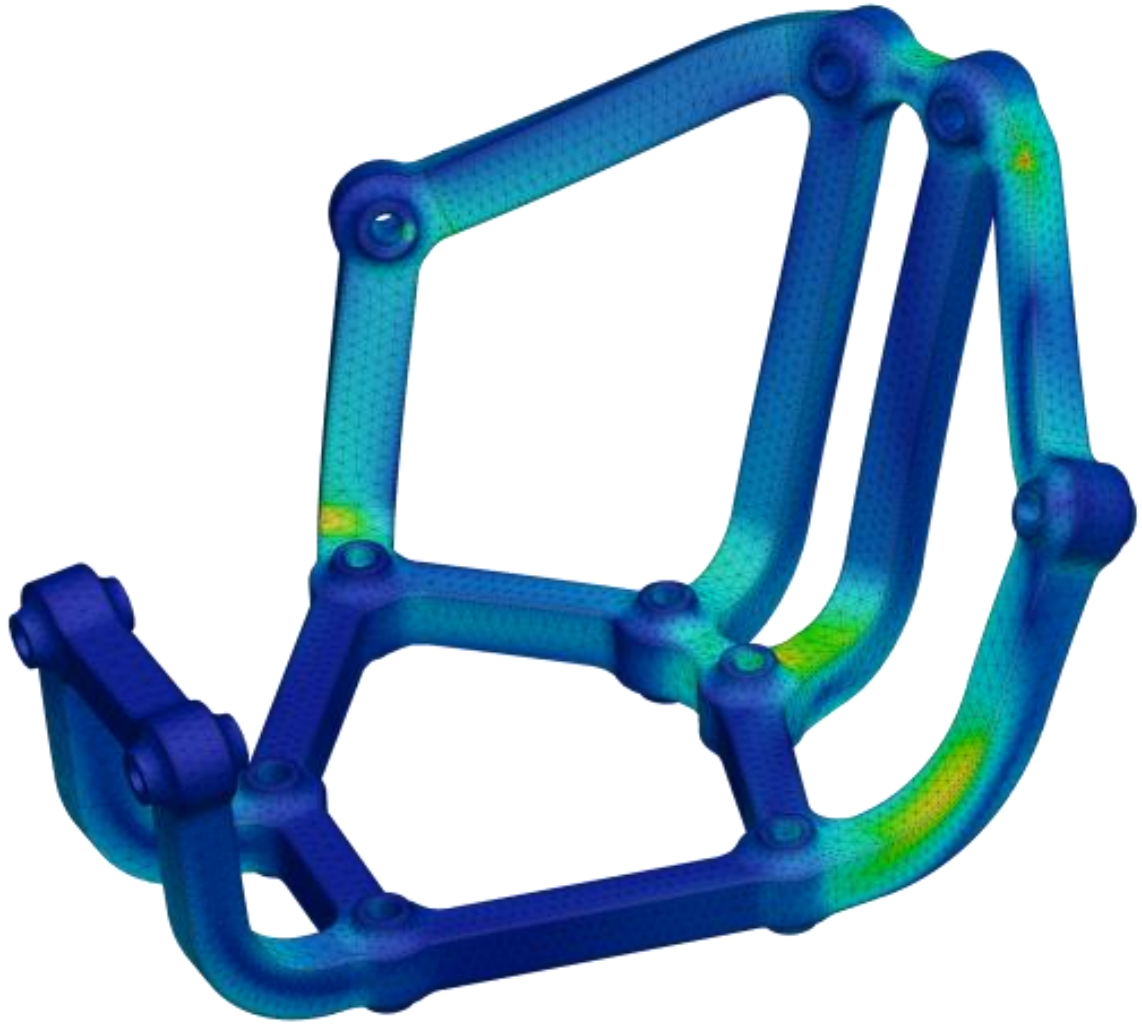


# PRODUCT INTRODUCTION

What does the Creo Simulation Live provide?

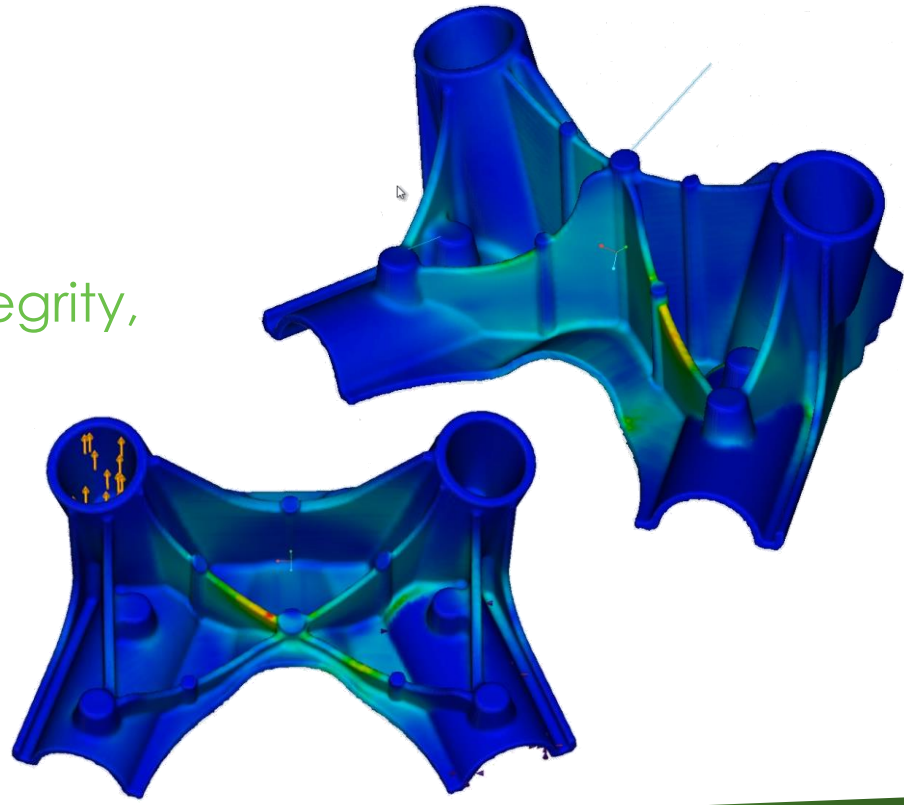
Rapid analysis setup and instantaneous results for:

- Static Structural Analysis
  - Used to determine the structural integrity of components subject to real-world constraints and constant loading conditions
- Thermal Analysis
  - Used to analyzes the affects of intense heat or cold leverages real world constraints and loading conditions
- Modal Analysis
  - Evaluate and solve for natural frequency



# Creo Simulation Live allows engineers ….

- Make rapid **design and development decisions**
- **Identify and resolve design flaws** early in the process when the cost and effort to implement change is low
- **Use analysis-led design** to validate and optimize design integrity, function, performance and cost
- **Eliminate reliance on prototypes** and late stage information
- **Mitigate risk** of product failure, warranty and liability



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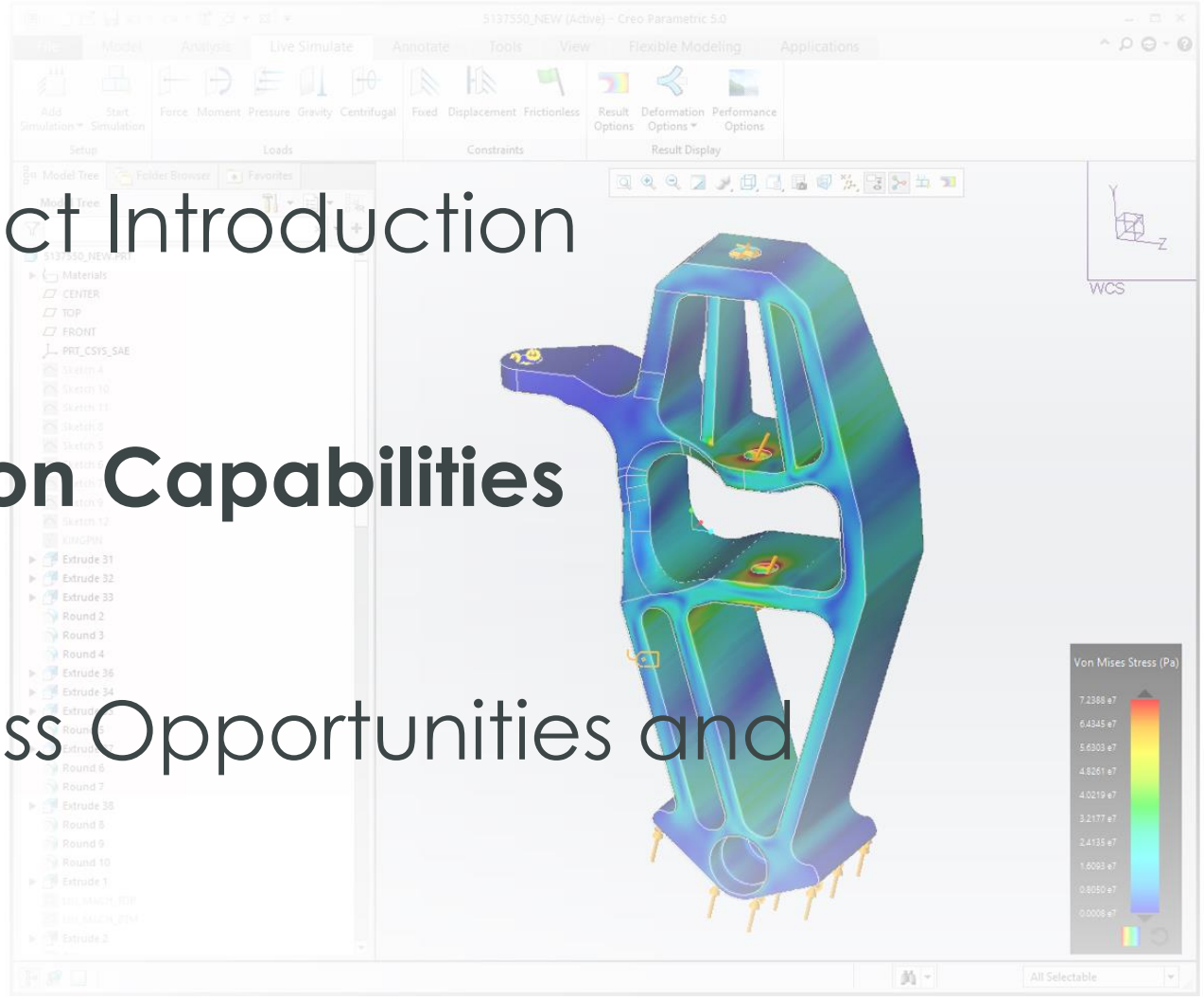
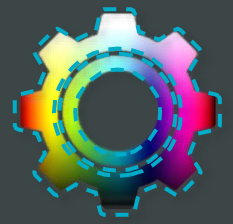
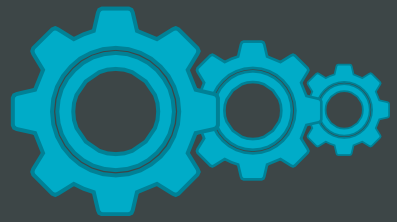


# TRUE SIMULATION DRIVEN DESIGN



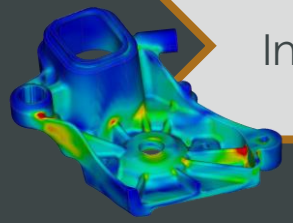
Concept Design

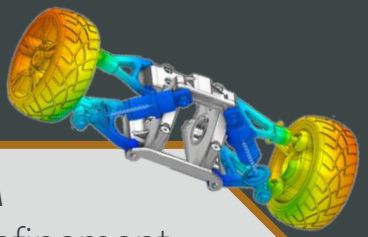
Simulation

Prototype

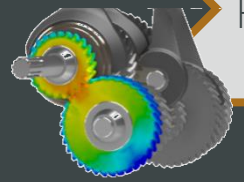
Manufacture

**Creo Simulation Live**
Instantaneous & interactive guidance for concept and detailed design





**Creo Simulation AIM**
High-fidelity simulation for design refinement and validation

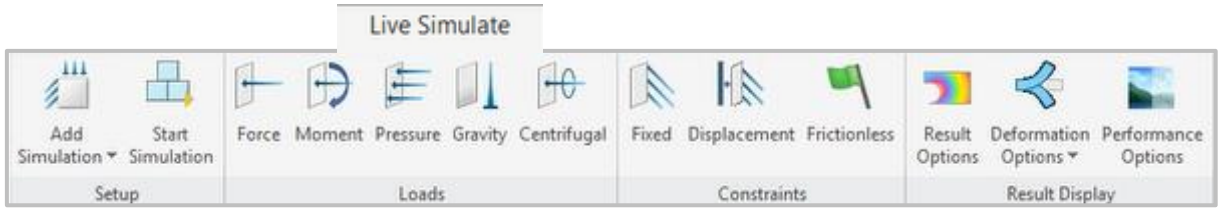


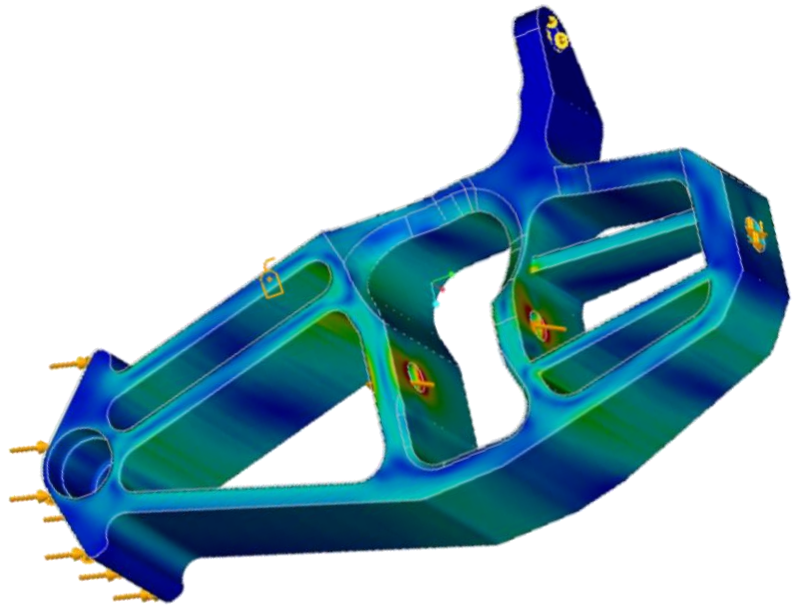
# CREO SIMULATE LIVE OVERVIEW

**Creo Simulation Live removes the barriers between CAD and CAE creating a unified modeling and simulation environment**

**Creo Simulation Live Delivers:**

- Ease of use
- Common Data Model
- Powerful Linear Analysis
- Instantaneous Results and Feedback

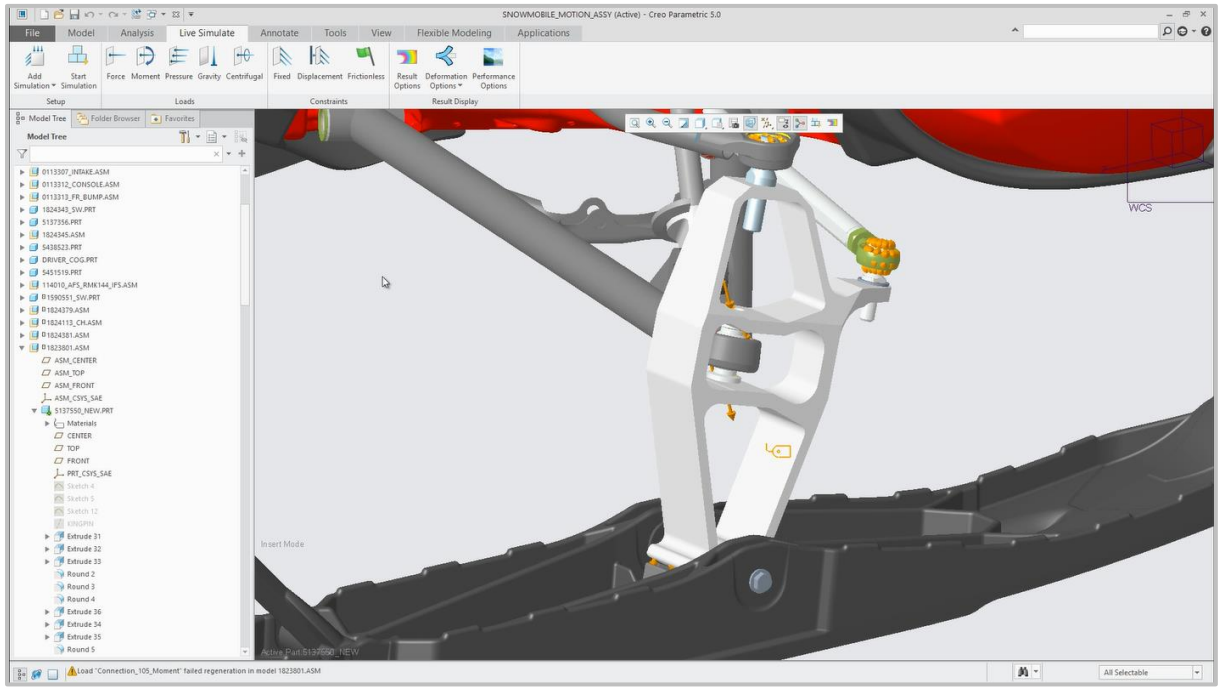


# CREO SIMULATE LIVE DIFFERENTIATORS

**Creo Simulation Live allows users to define and run simulations after a few basic parameters are defined**

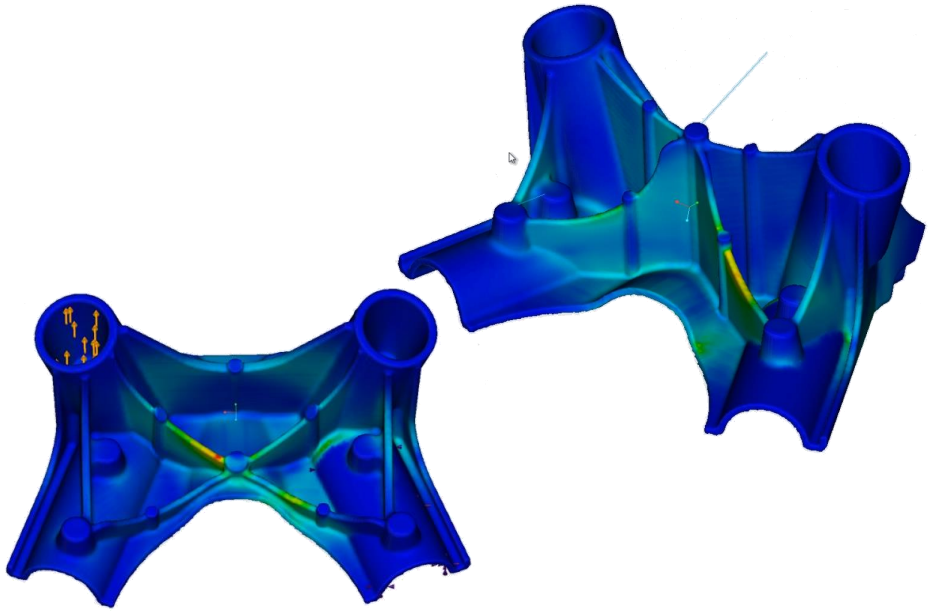

- Common, consistent Creo UI
  - Context sensitive menus, RMB command access, Simplified workflows
  - Engineering terminology
- Rapidly analysis setup and simulation (i.e., loads, constraints)
  - Simulations begin after a few basic parameters are defined
  - Create and run simulation in minutes



# CREO SIMULATE SOLUTION DIFFERENTIATORS

## A single unified environment for design and analysis

- ANSYS Discovery Simulation engine embedded "natively" within Creo Parametric
  - 48 years of engineering simulation expertise
  - Unified design and analysis environment
- Powerful parametric and direct editing
  - 30 years of CAD modeling expertise

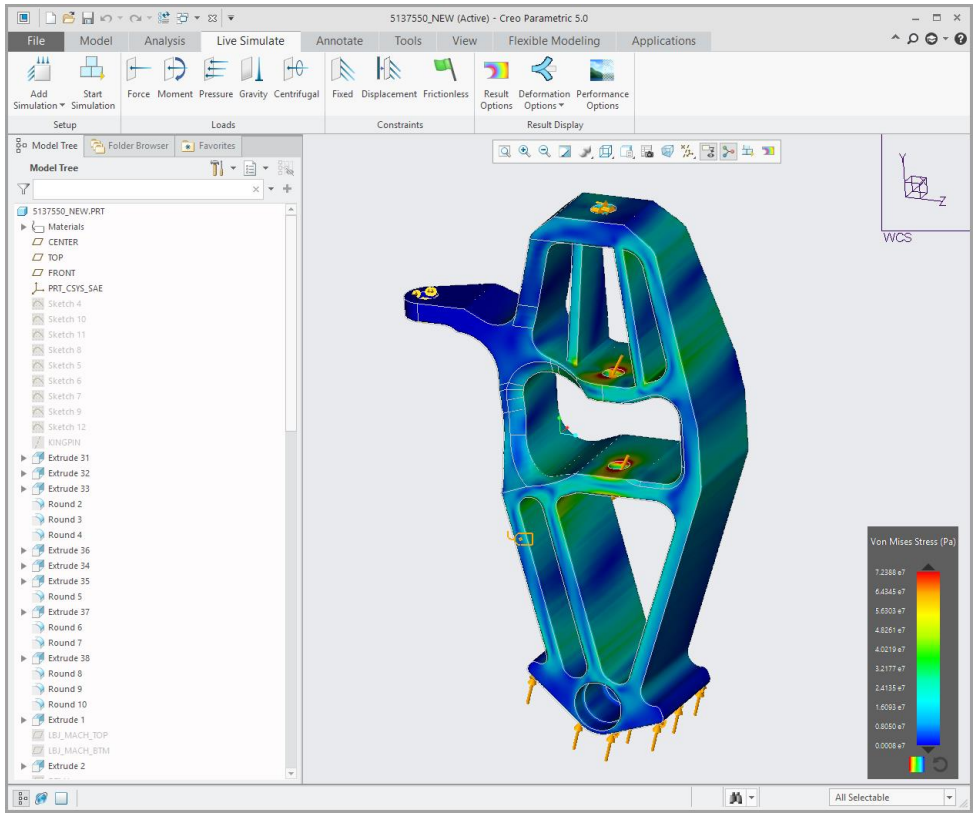


# CREO SIMULATE SOLUTION DIFFERENTIATORS

**Analysis results update in real-time as engineers makes changes to model geometry and properties (i.e., material)**

- Rapidly define and perform linear analysis
  - Structural Analysis
  - Thermal Analysis
  - Modal Analysis

  Structural  Thermal  Modal
- Focus on refinement, speed and interactivity
  - Quickly explore and find the optimal design

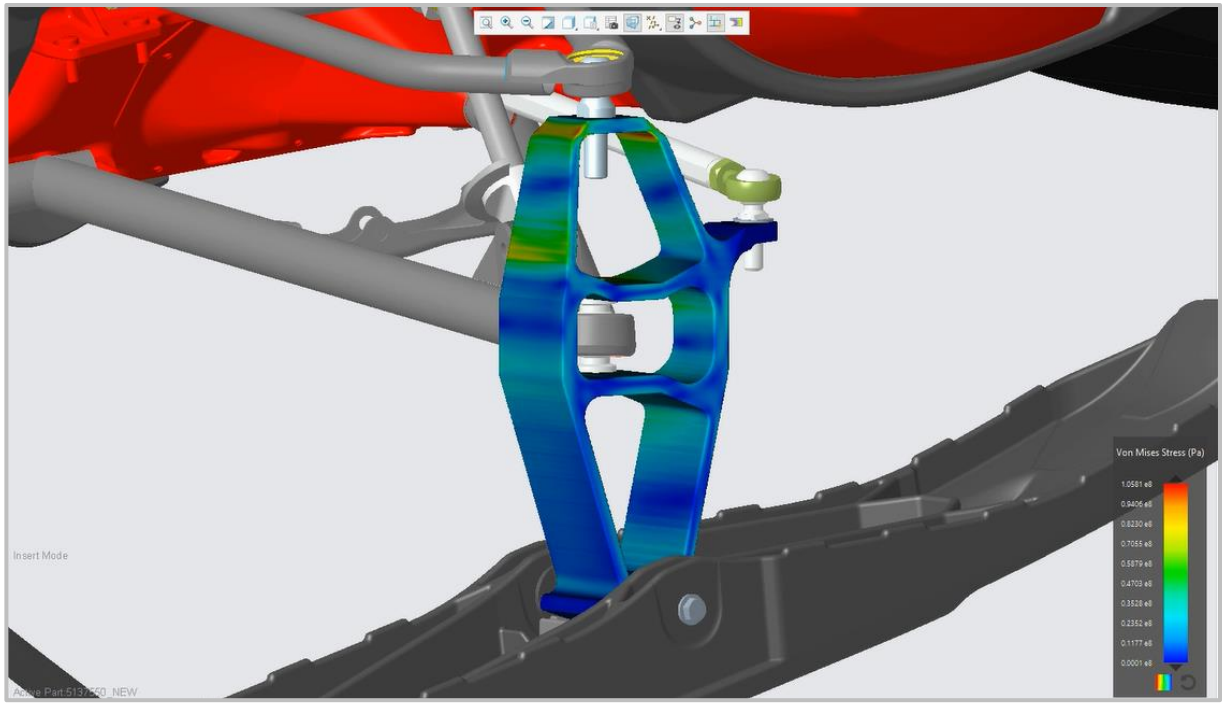


# CREO SIMULATE SOLUTION DIFFERENTIATORS

**Proprietary technology developed and powered by ANSYS the industry leader in engineering simulation**

- New Technology Powered by Ansys (Speed)
  - Solving engine uses the GPU (Nvidia - CUDA supported Graphics card)
- Proprietary meshing and solving
  - Meshing is automatic
  - Analysis results are instantaneous

**Note**, Discovery Live is GPU-based, you will require a GPU to run it. Ansys recommends a dedicated NVIDIA GPU card based on the Kepler, Maxwell or Pascal architecture (or newer) with at least 4GB of video RAM (8GB preferred).



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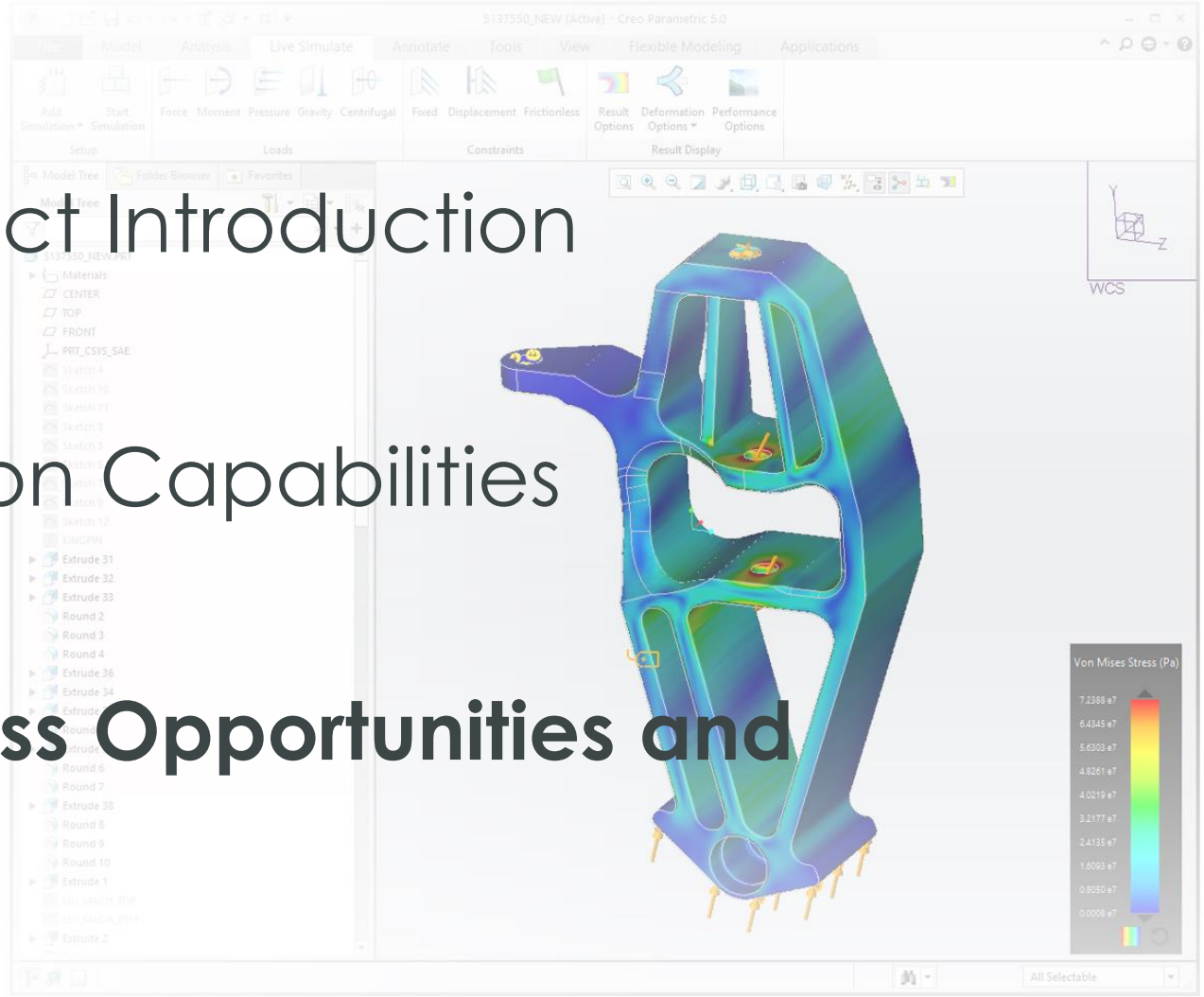
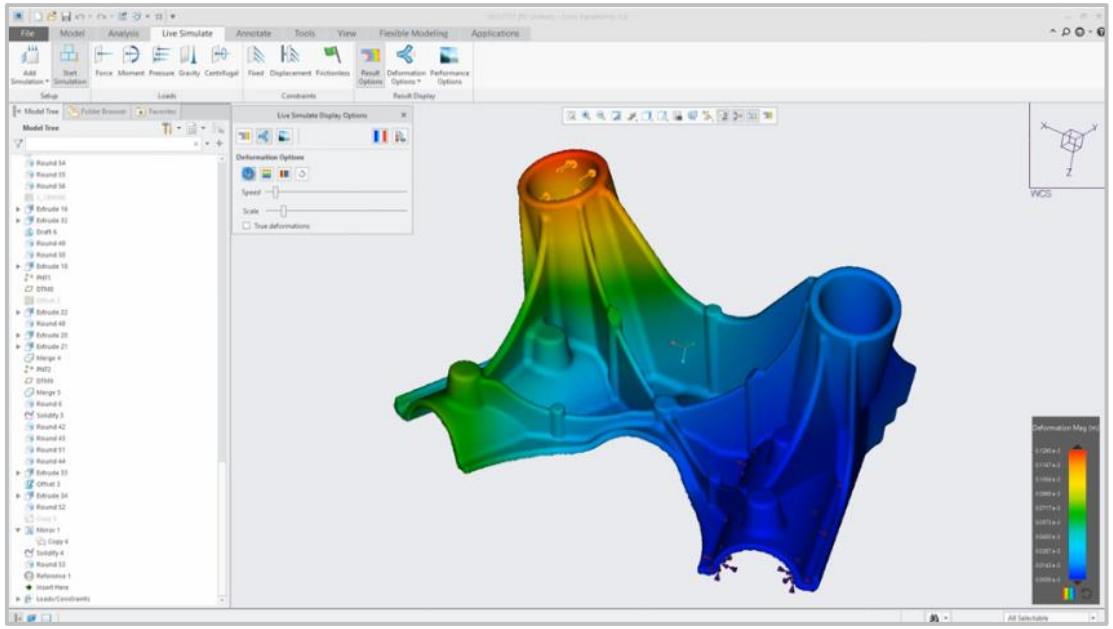


# CREO SIMULATE DELIVERS BUSINESS VALUE

- **Lower lifecycle cost**
  - Eliminate product failures to reduce warranty and repair cost
- **Reduce time-to-market**
  - Rapidly explore and find the optimal design solution
- **Design to realize price premium**
  - Improve product quality and competitive differentiation
- **Increase quality and performance**
  - Enable analysis-driven design optimization
- **Reduce product development cost**
  - Resolve design flaws early eliminating late stage rework and scrap



**Use analysis early and often to guide and drive design and development decisions**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