



Simulation for Industrial Machinery

SM2175

David Truyens
Technical Specialist

Who am I?



Who is Datech?

For our Resellers



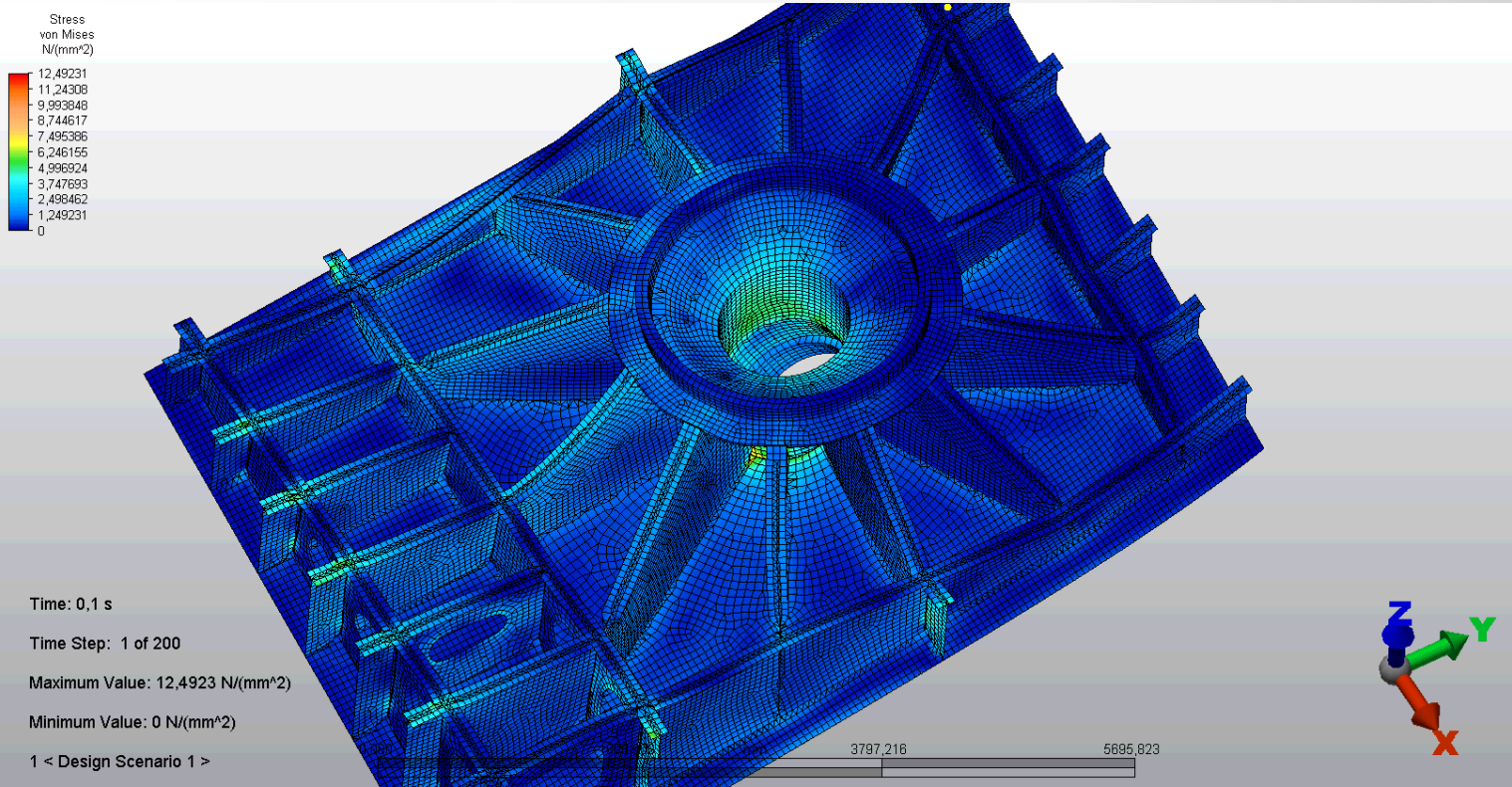
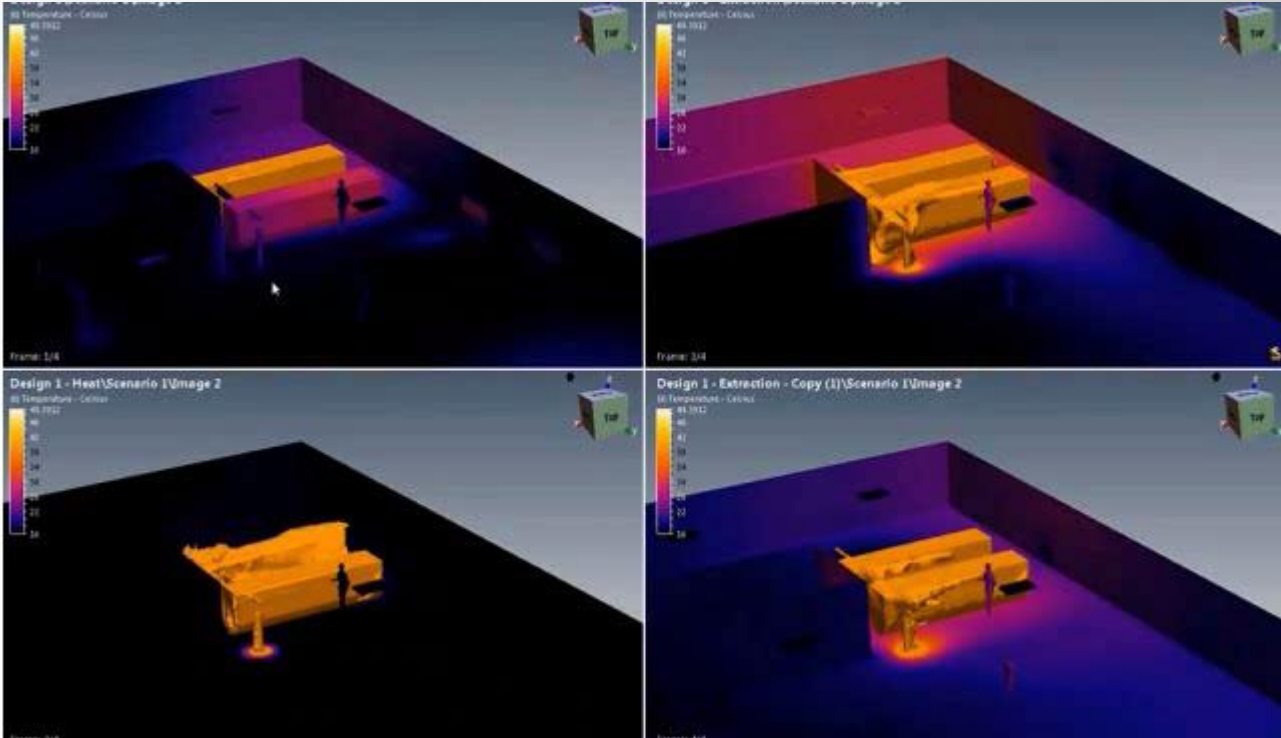
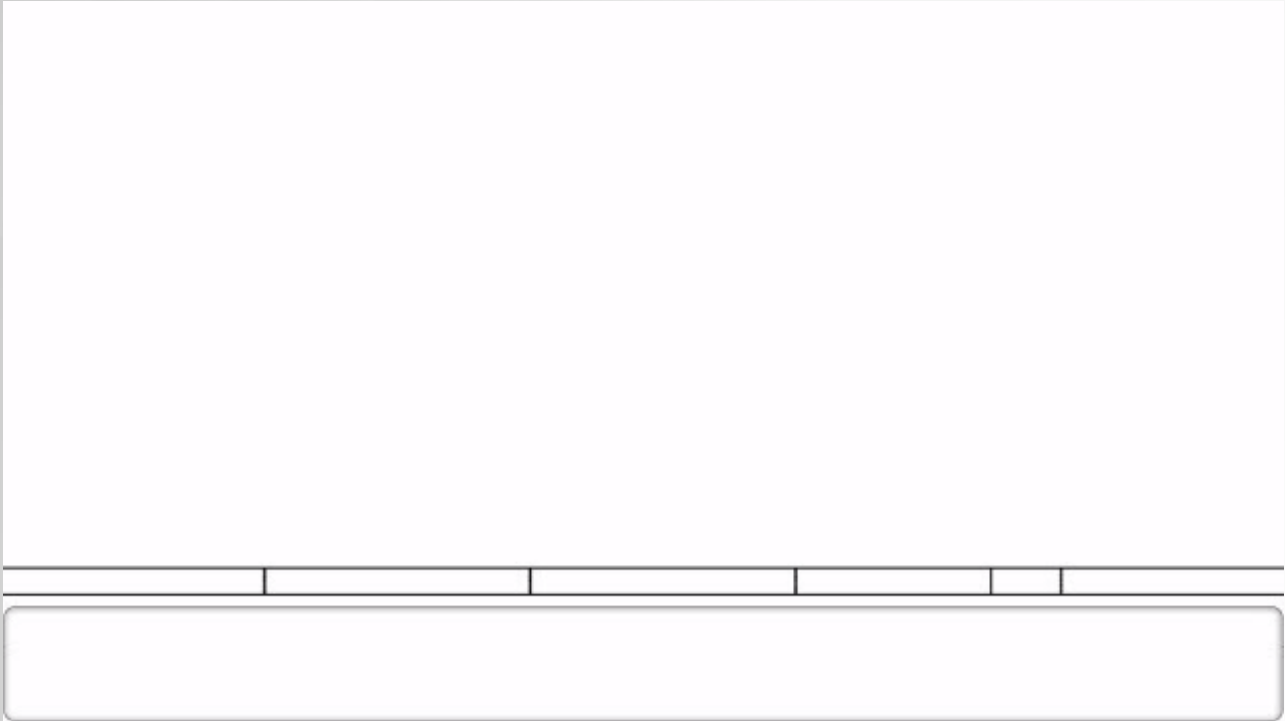
- Training
- Support
- Pre Sales

For our End Customers

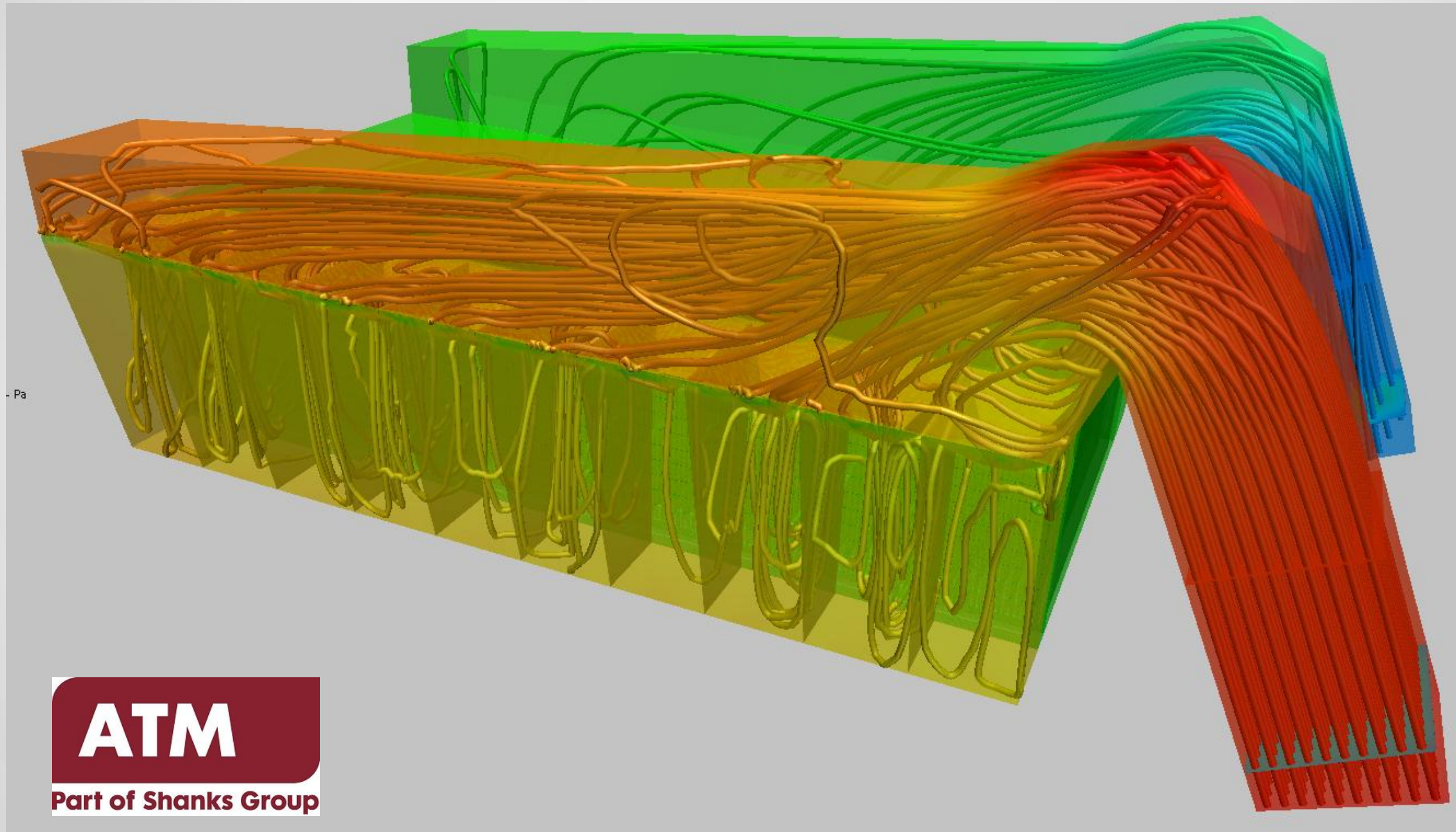


- Demo
- Guidance at work
- Events

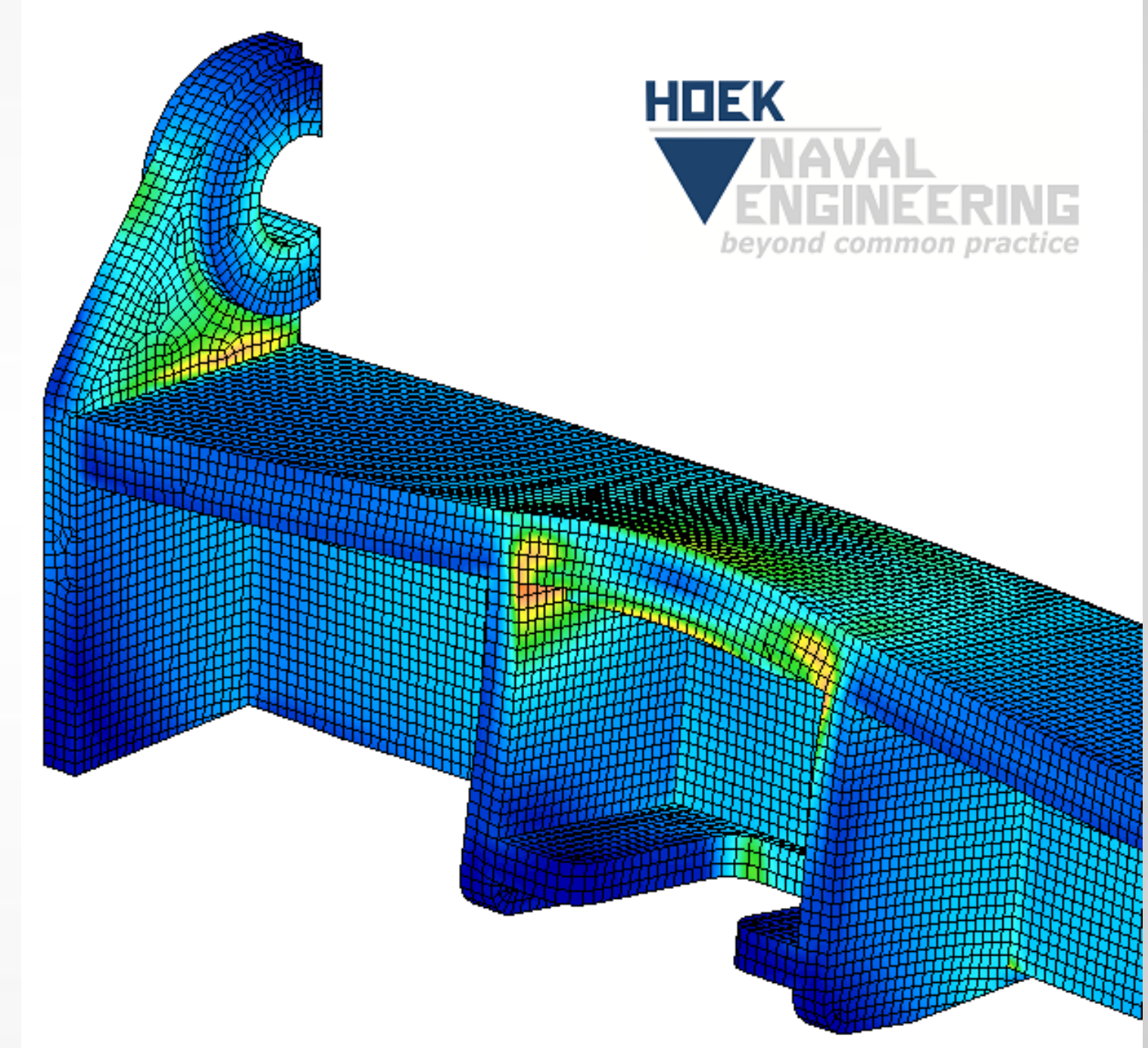
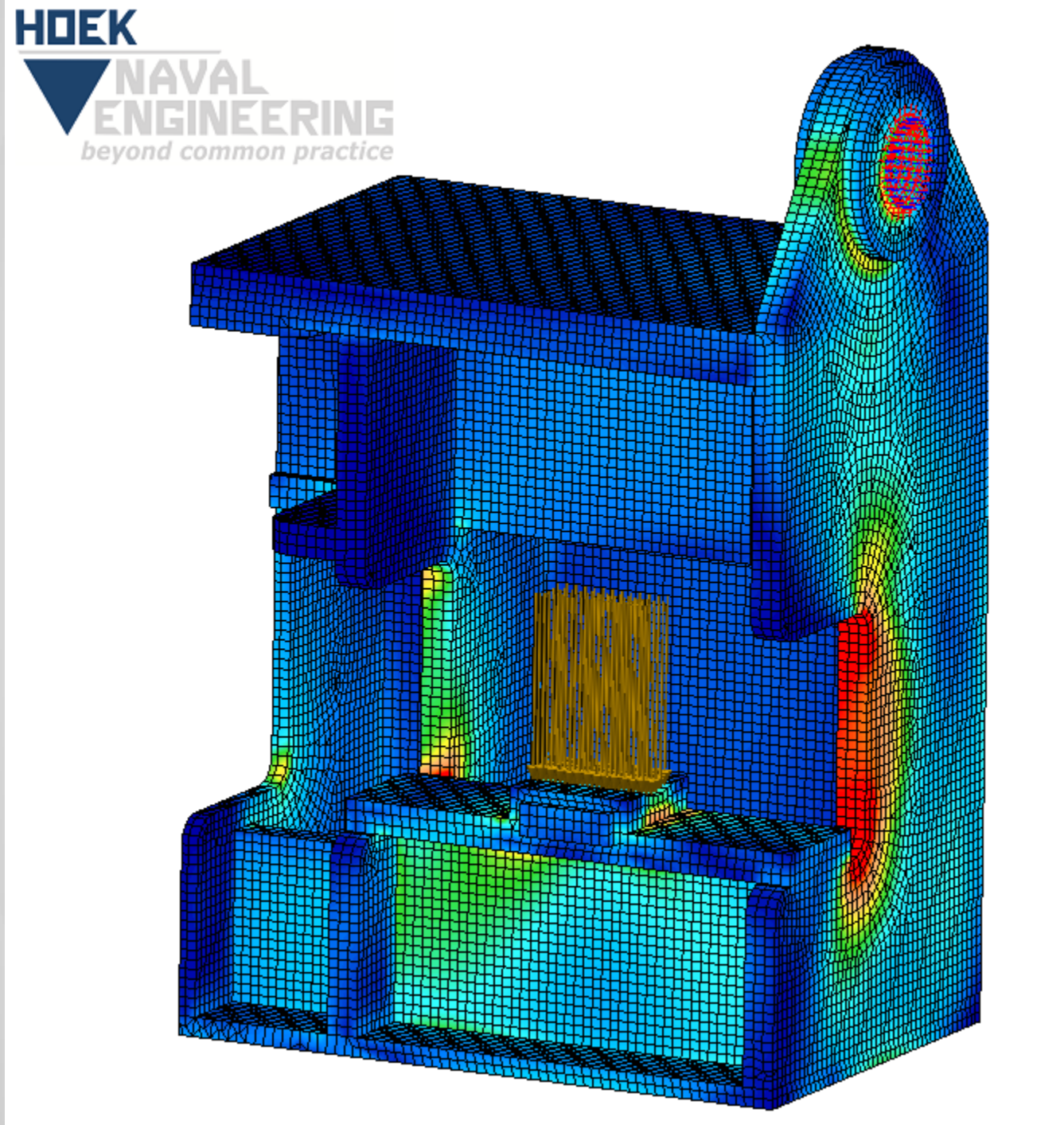
Who am I?



My Customers: ATM

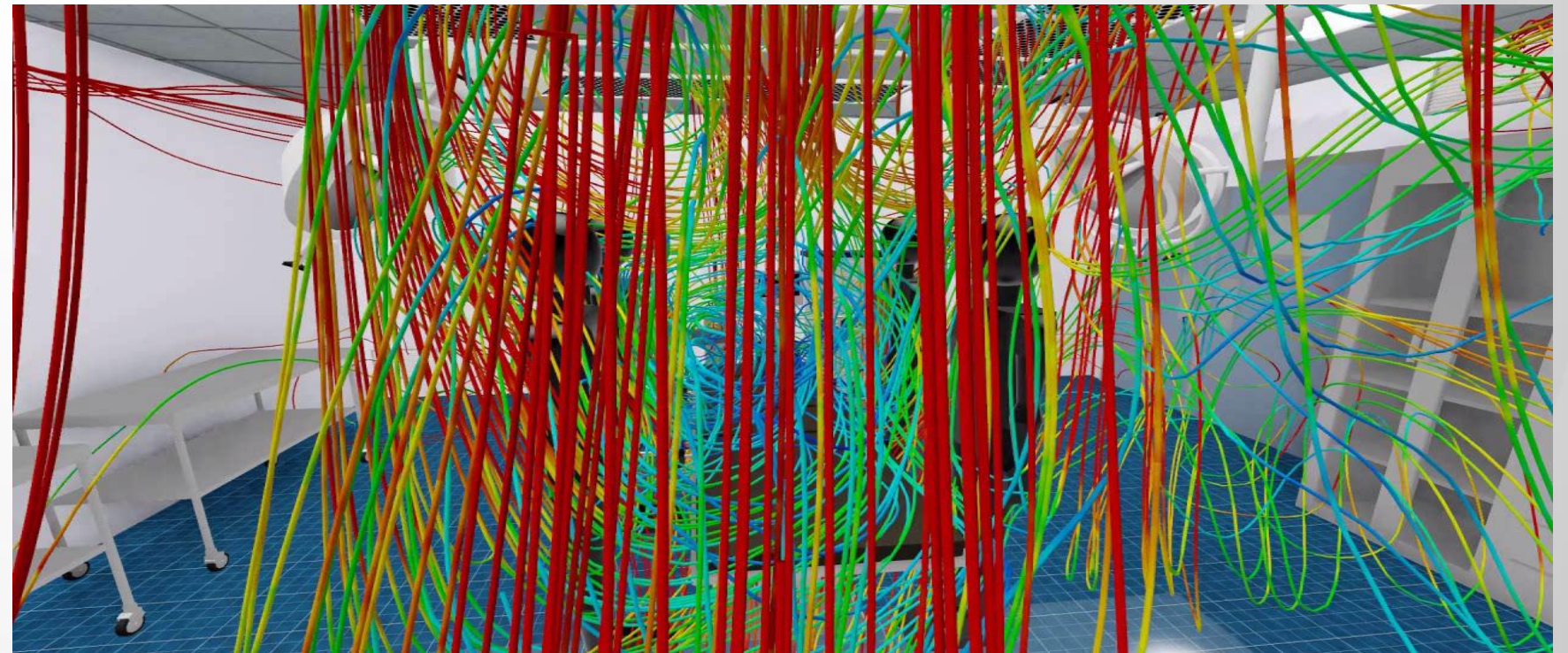


My Customers: Hoek Naval Engineering

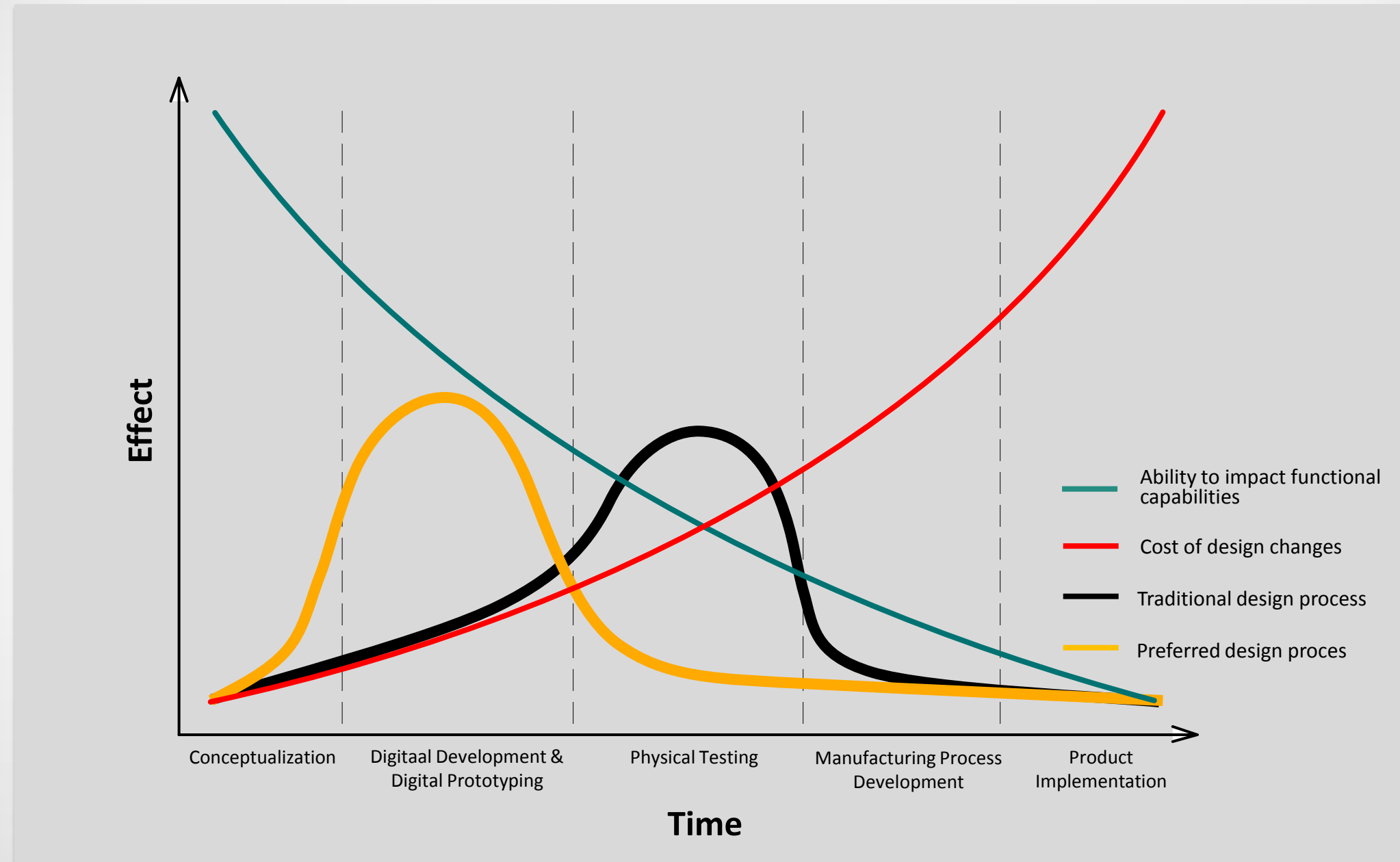


Why Simulate?

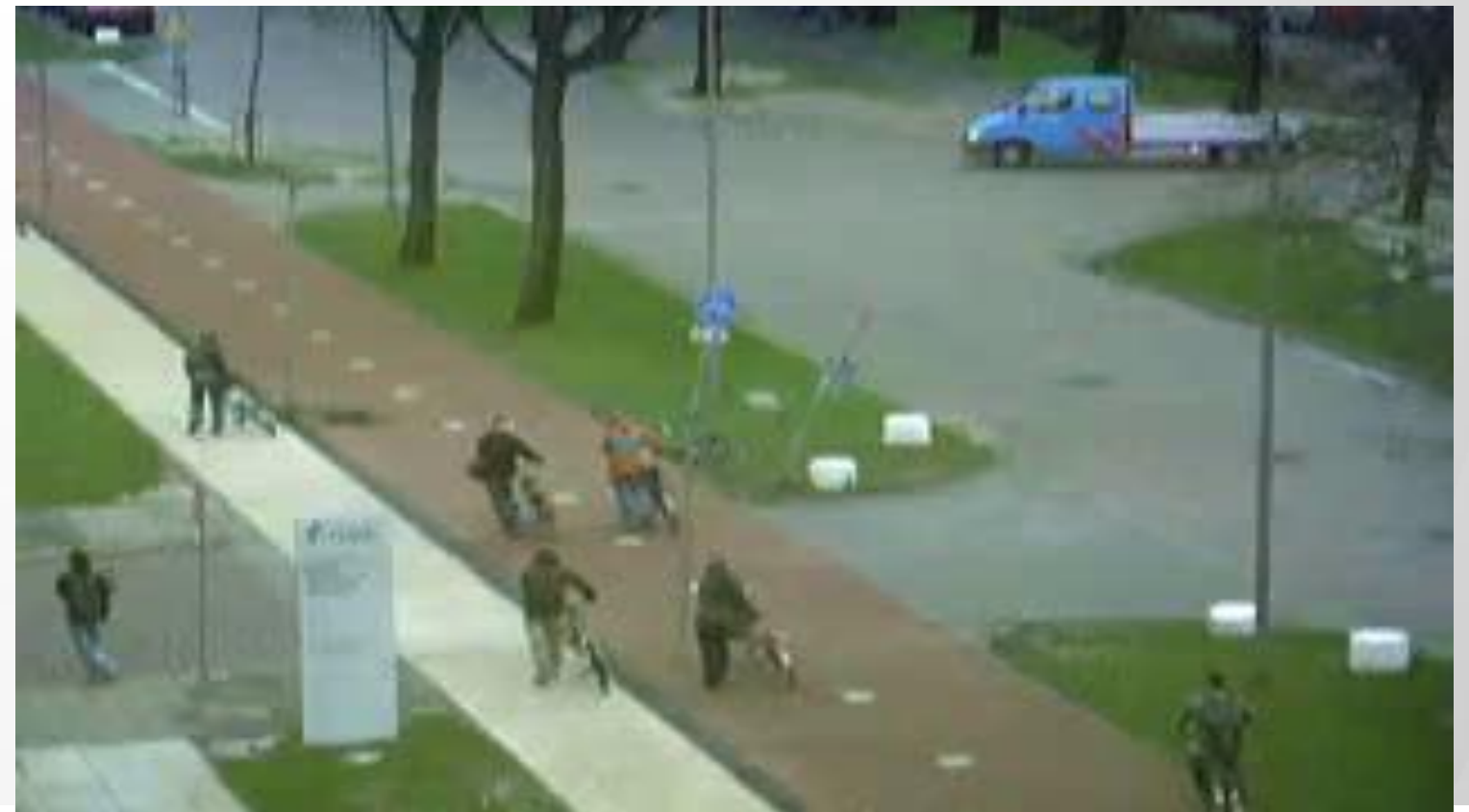
- Reduce Reliance on Physical Testing
- To Validate Designs
- Design Optimization



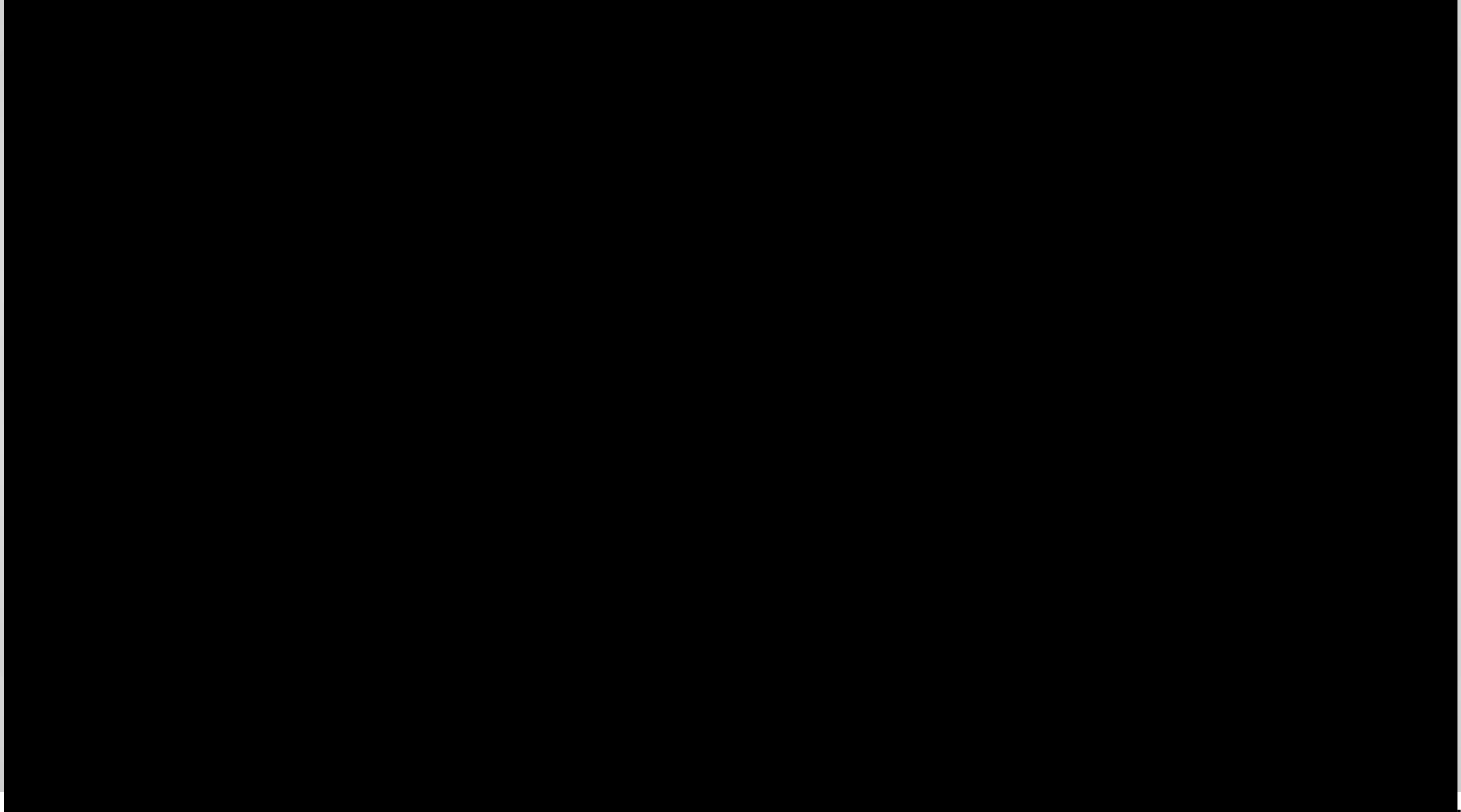
Why Simulate?



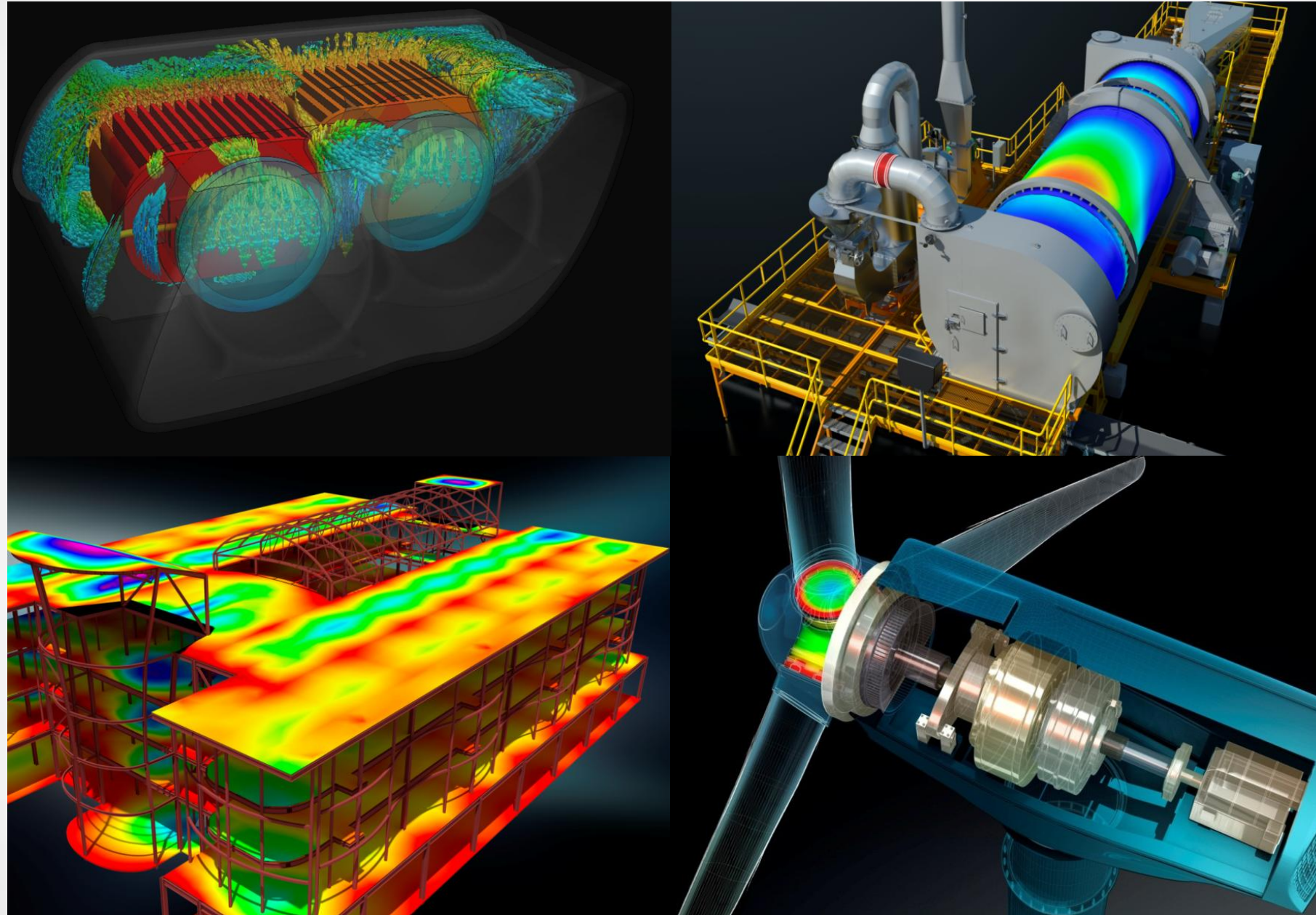
Why Simulate?

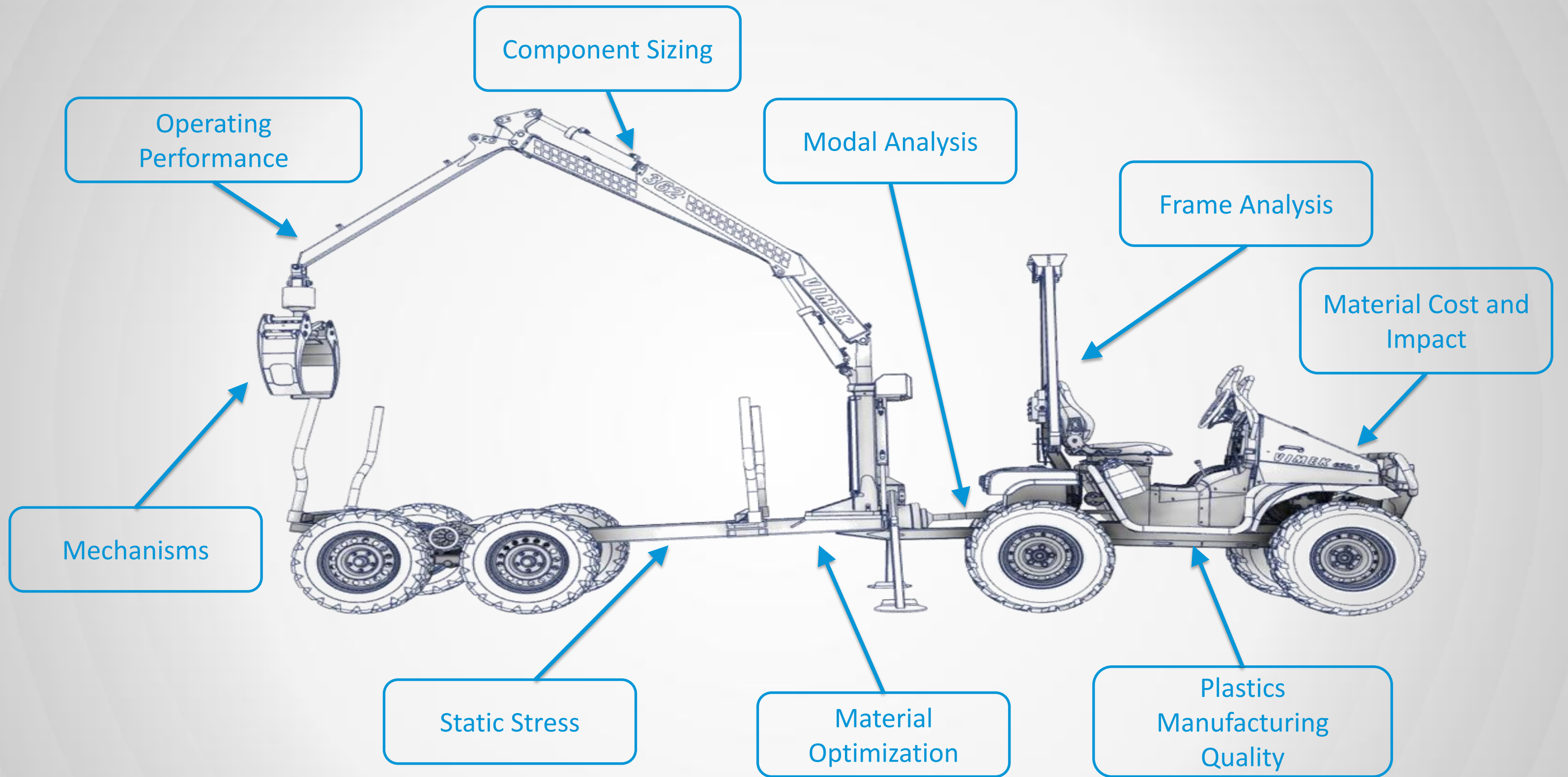


Why Simulate?



So Who Uses Simulation Tools?





Design Criteria

Geometry

Loads

Speed

Design of a component

Extra Requirements

Buckling

Fatigue

Even More Requirements

Flow

Break

Thermal

Composites

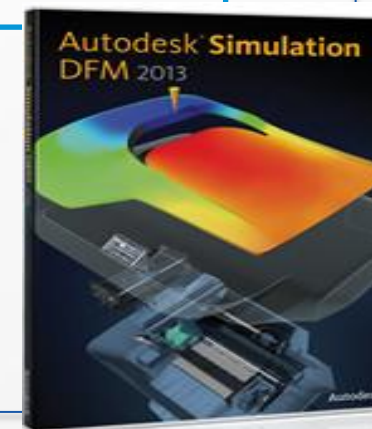
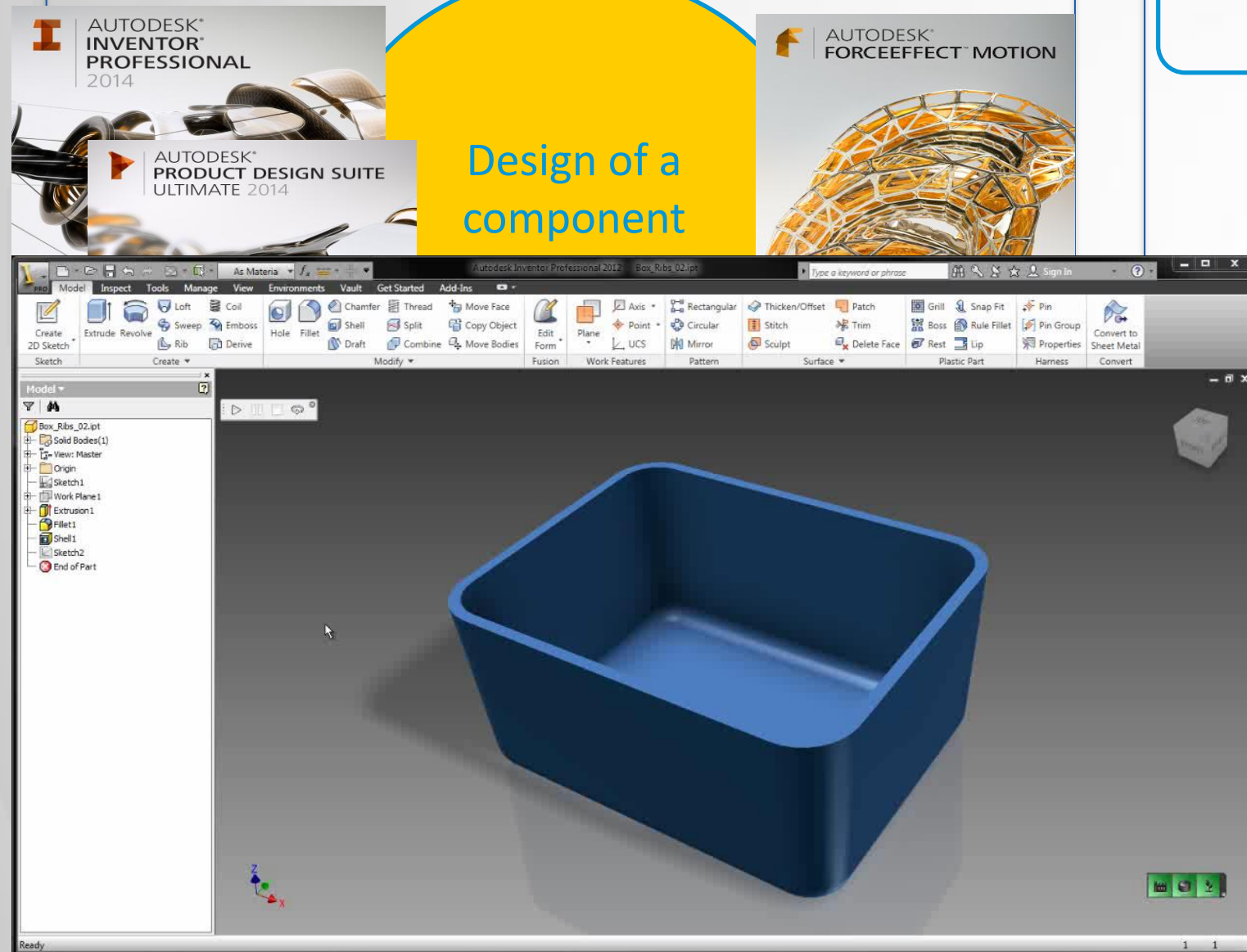
Non Linear

Plastic design

Droptest

Code Checking

Certification



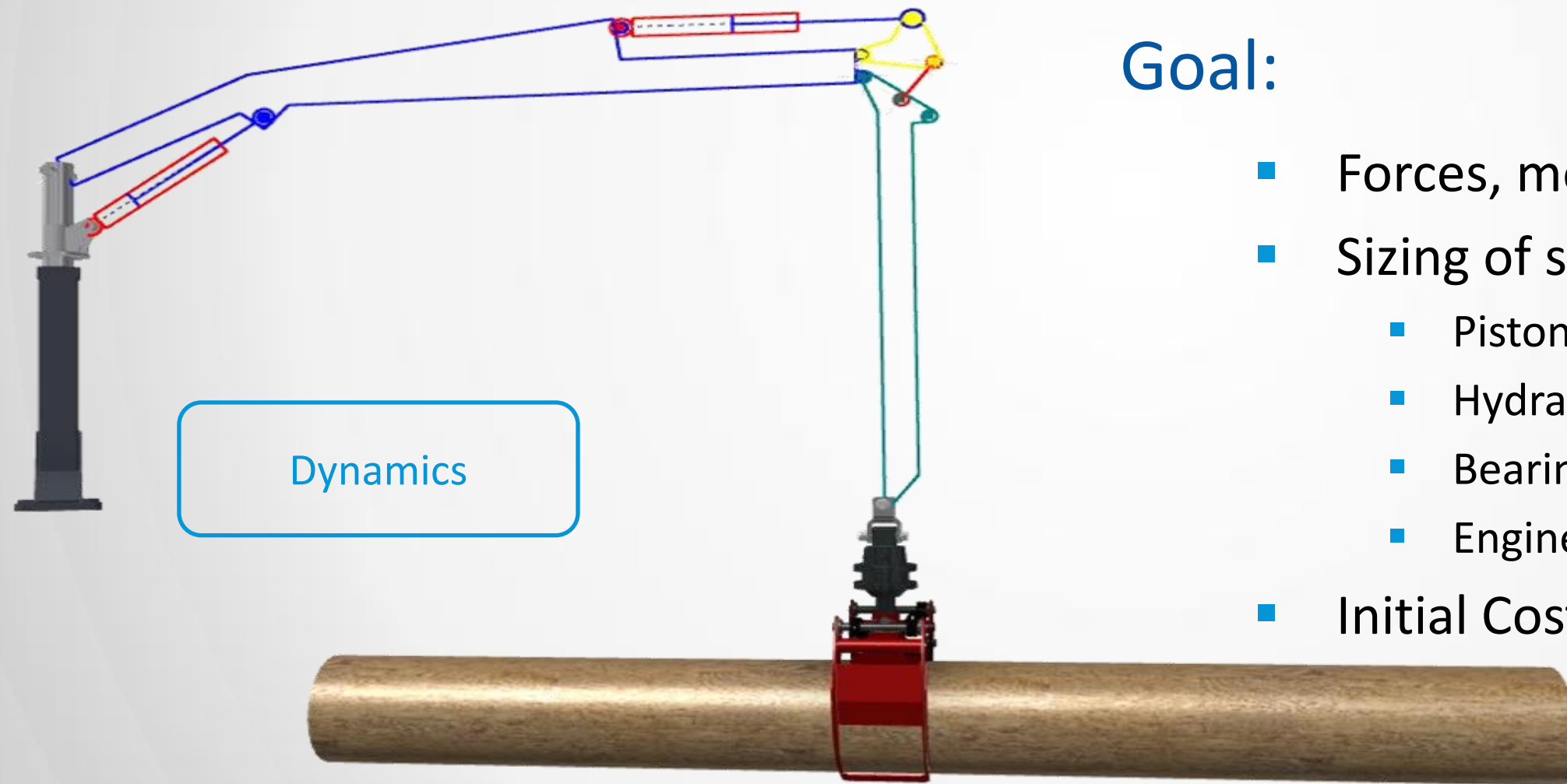
Conceptual Design

Design criteria:

- Geometry
- Speed
- Loads

Goal:

- Forces, moments, power consumption
- Sizing of standard components:
 - Pistons
 - Hydraulic system
 - Bearings
 - Engine
- Initial Cost calculation



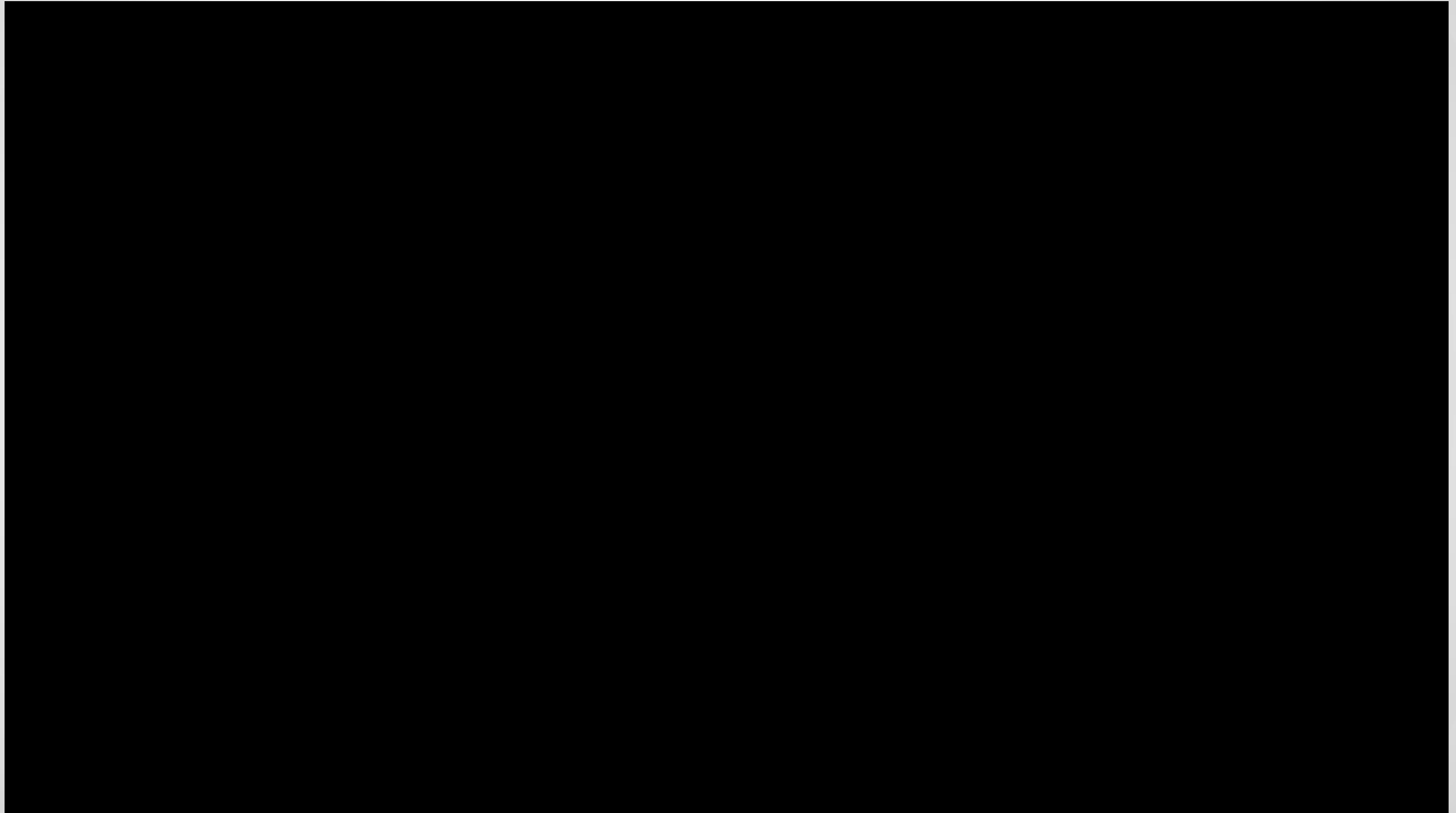
Dynamic Simulation – FEA – Optimization

Demo:

1. Dynamic Simulation
2. Map Dynamic Forces to FEA
3. Optimize

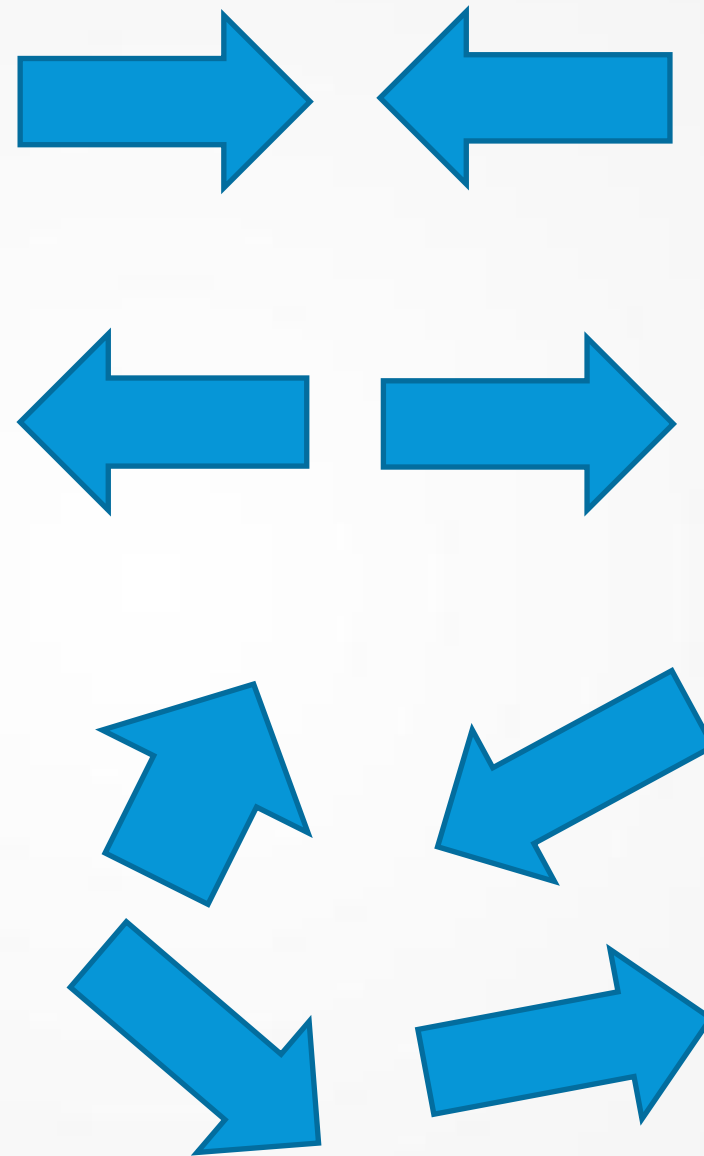
SM3343 - Integrate Simulation into All Phases of Your Product Design

Extra Criteria



Extra Criteria

- Buckling
- Fatigue
- Thermal

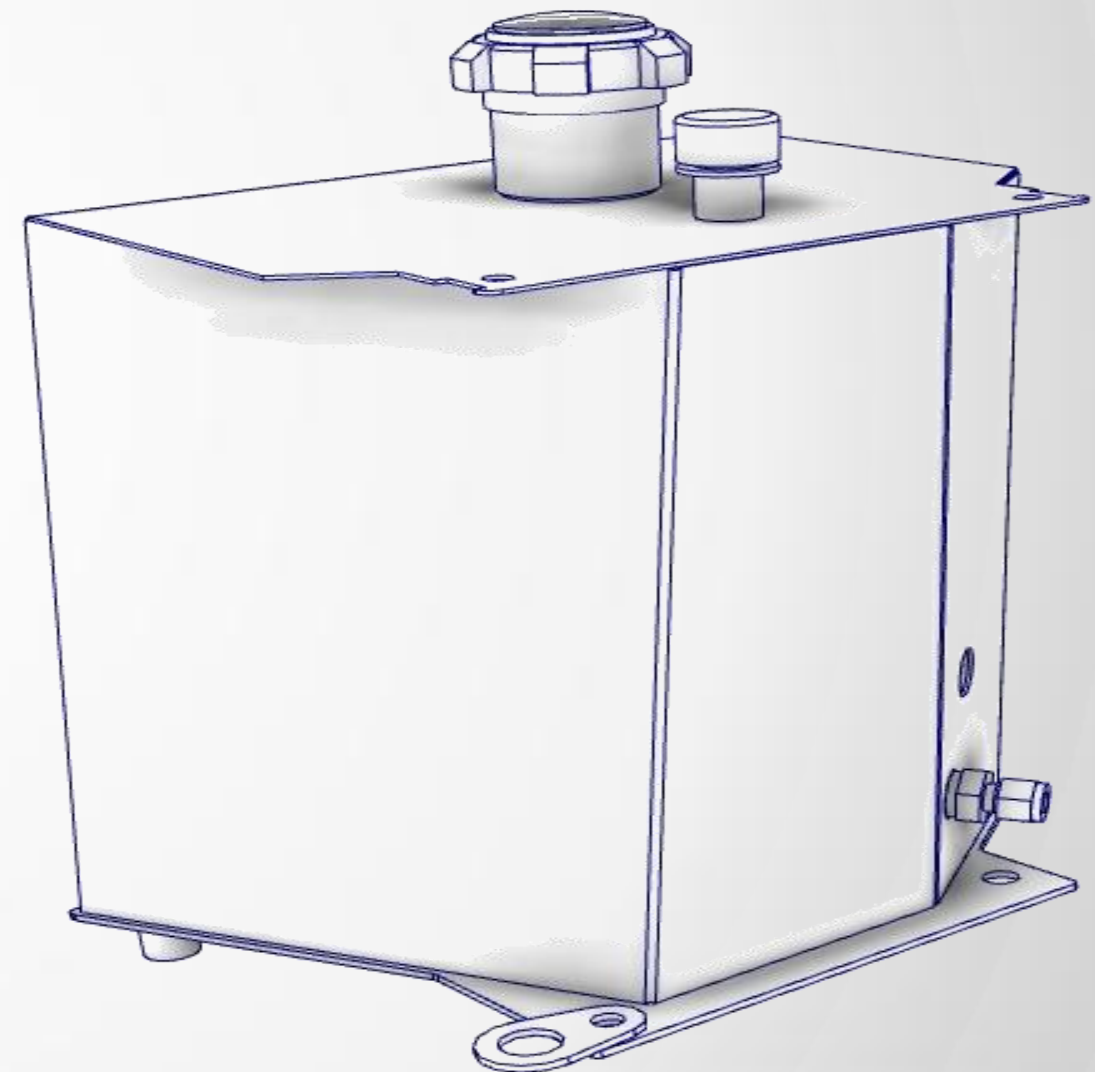


Even More Requirements

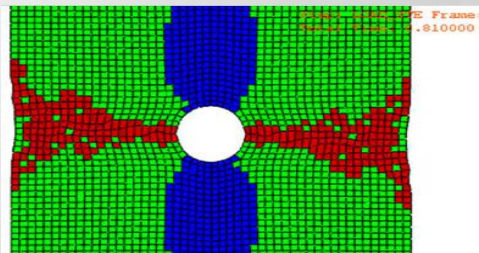
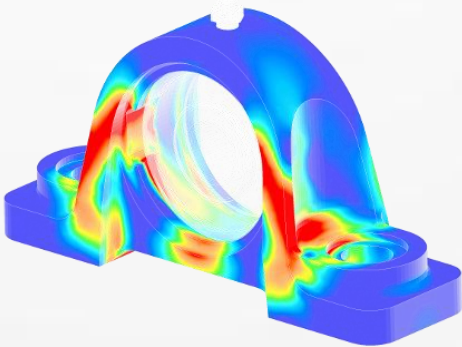
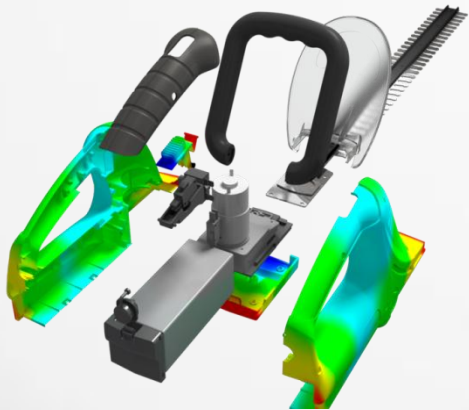
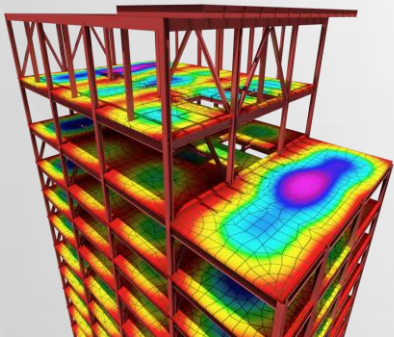
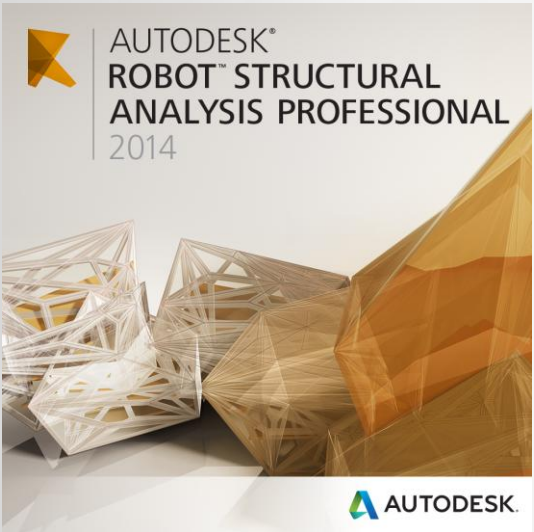
- Thermal stresses?
- Vibration?
- Local peak stresses?
- Sloshing?
- What happens if it would drop?
- And much more ...

Buckling

CFD



Autodesk Simulation Investeringen

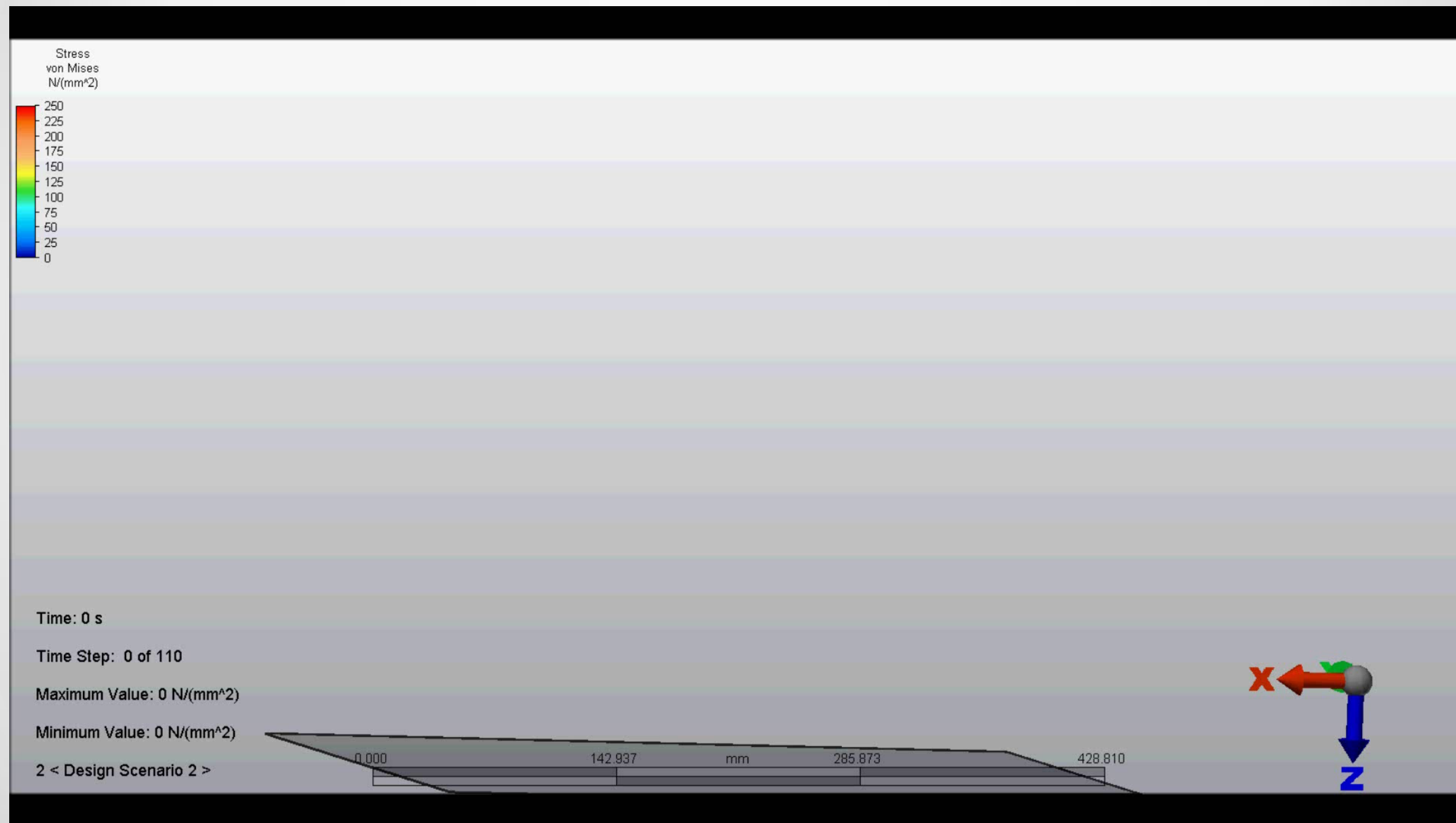


Multiphysics

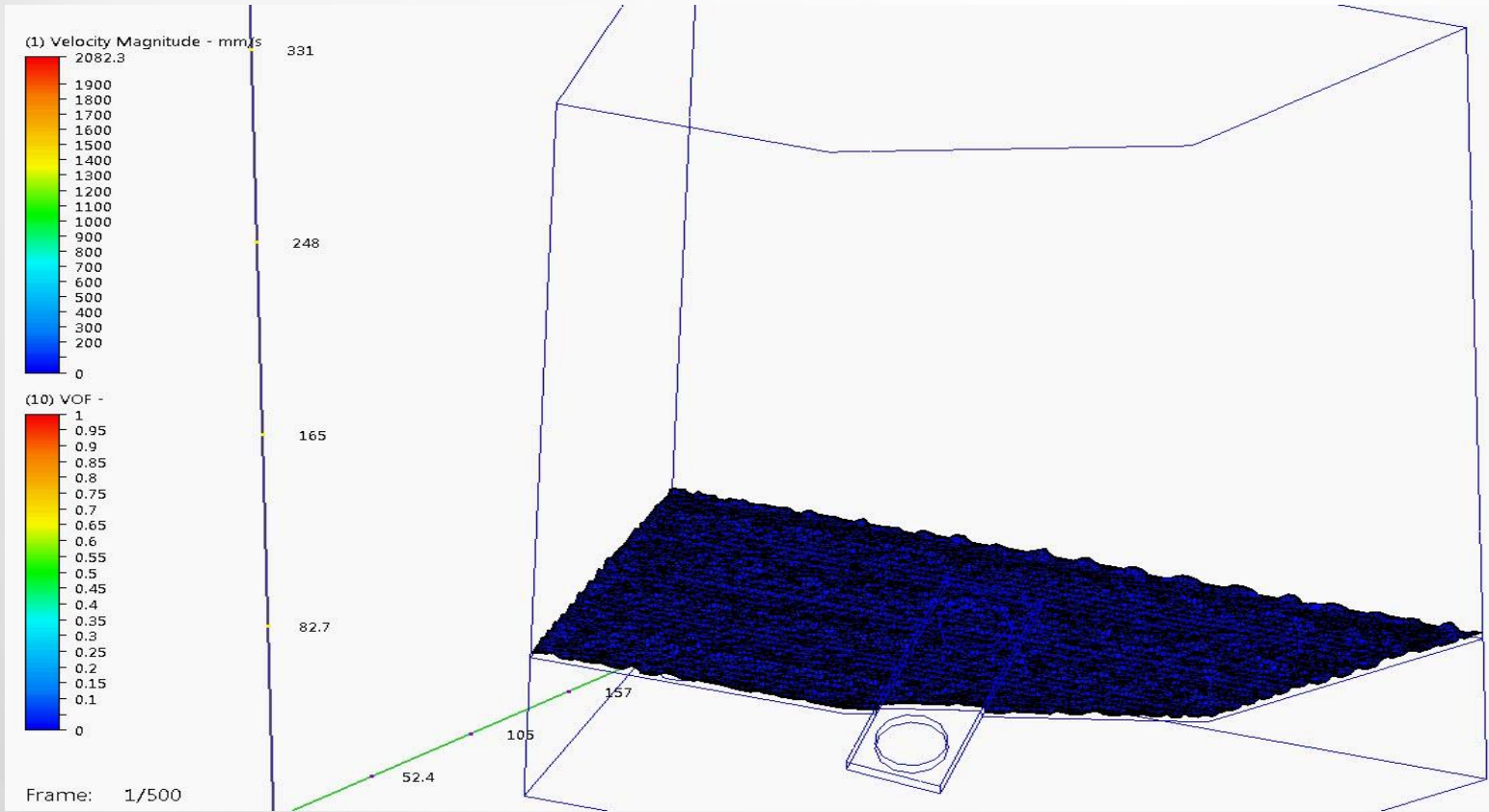
Demo:

1. Temperature analysis
2. Temperature mapping to Mechanical
3. Droptest

Drop it!



Sloshing

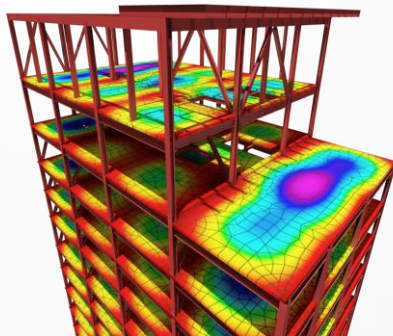
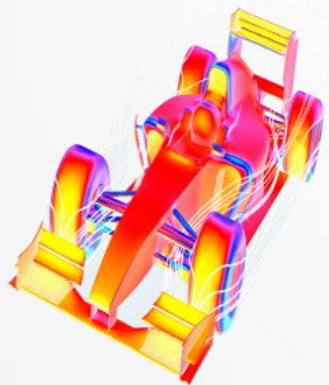
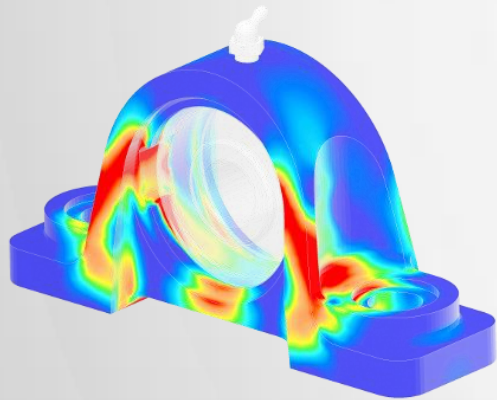
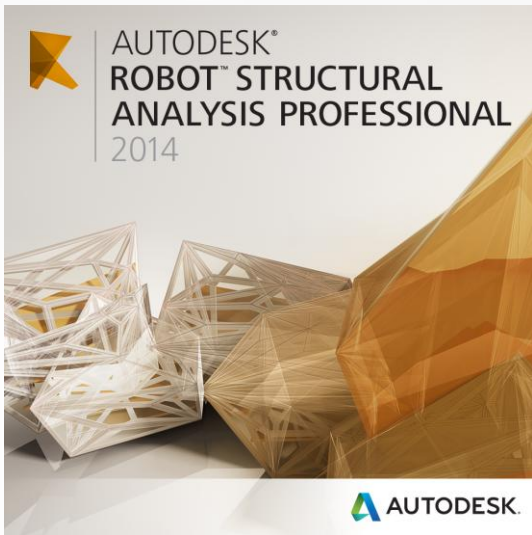


Why is not everyone using simulation?



SIM 360 Pro Packaging

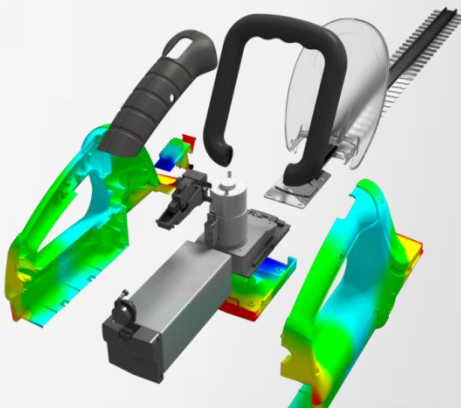
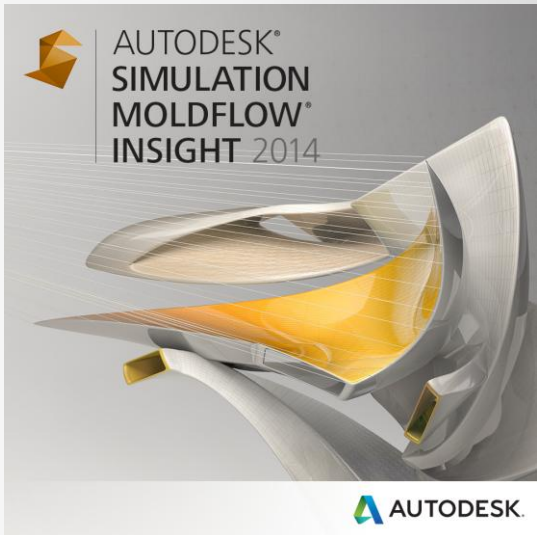
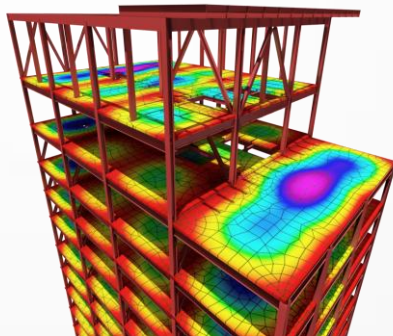
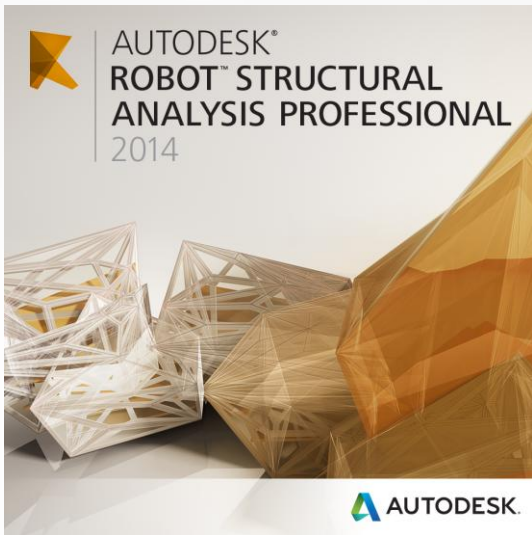
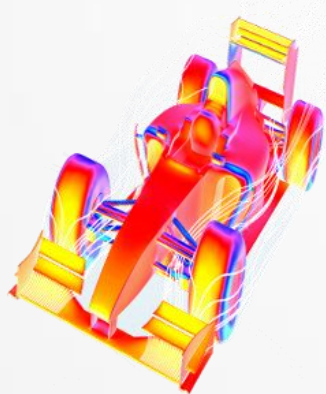
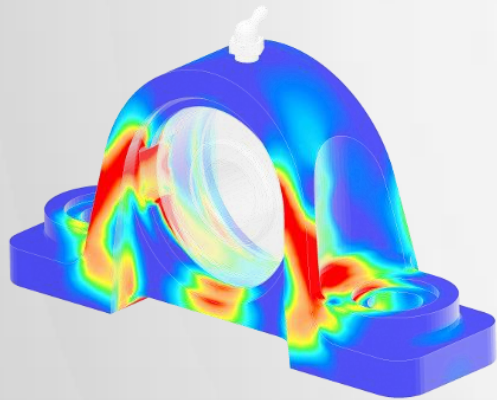
SIM360 Pro



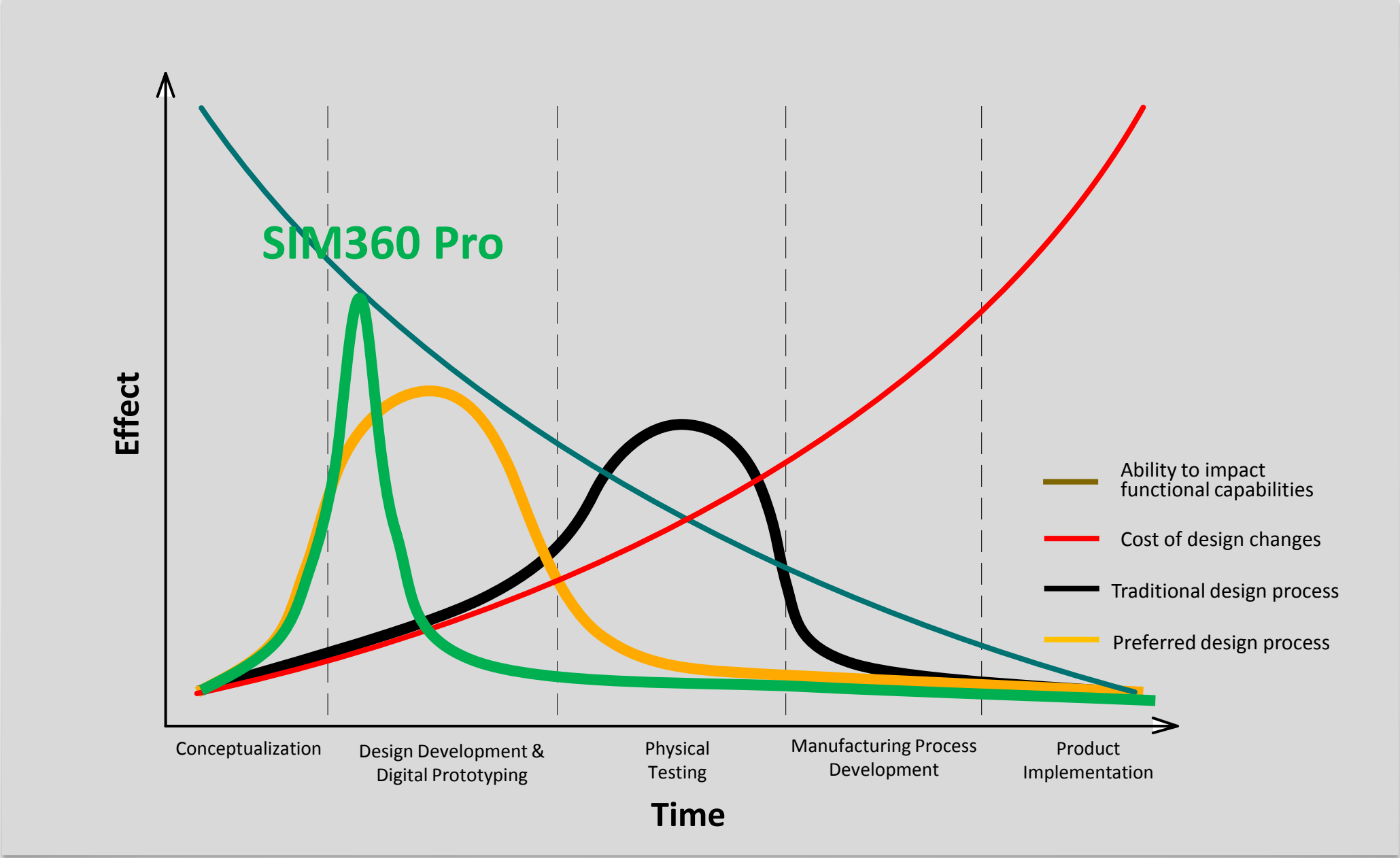
SIM 360 Moldflow Packaging

SIM360 Moldflow

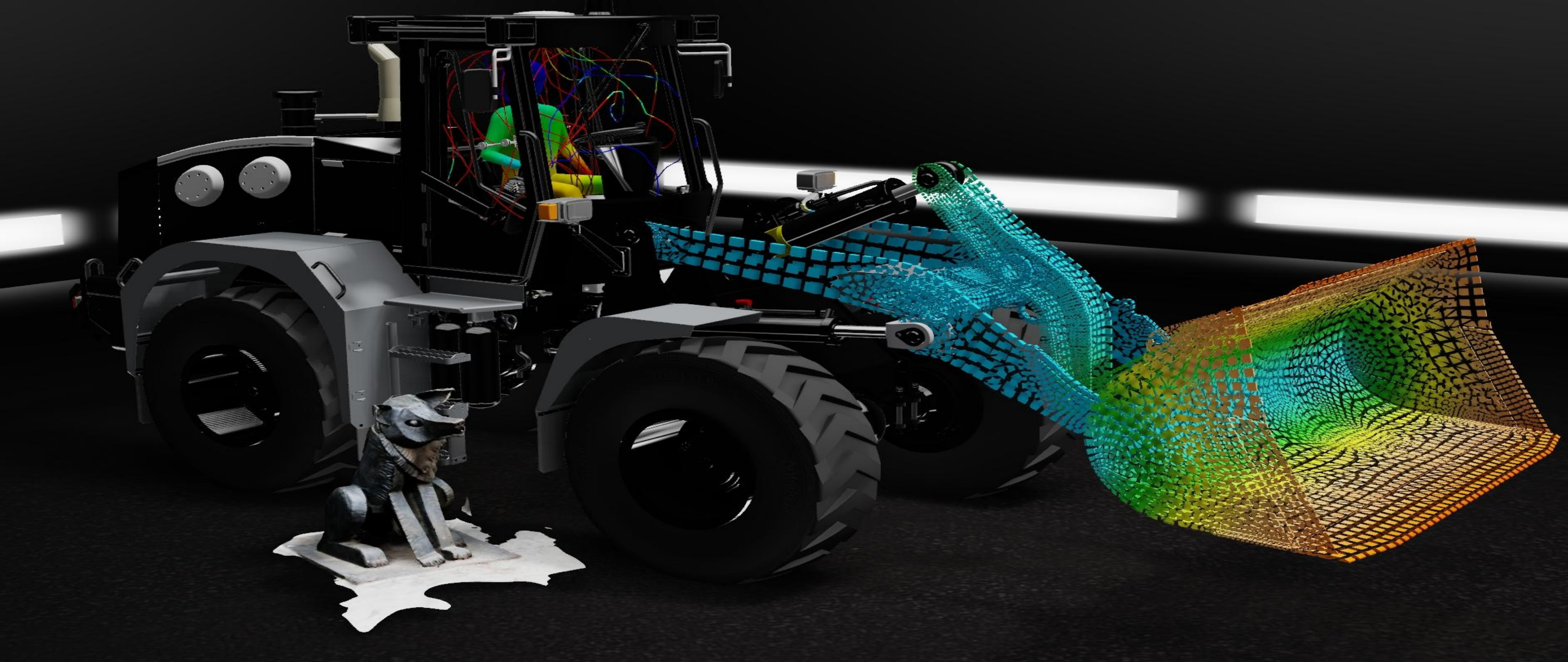
SIM360 Pro



Simulation 360 Pro



Showtime





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