

GETTING STARTED WITH MULTIBODY DYNAMICS

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Inspire Motion

Agenda



What is MBD?

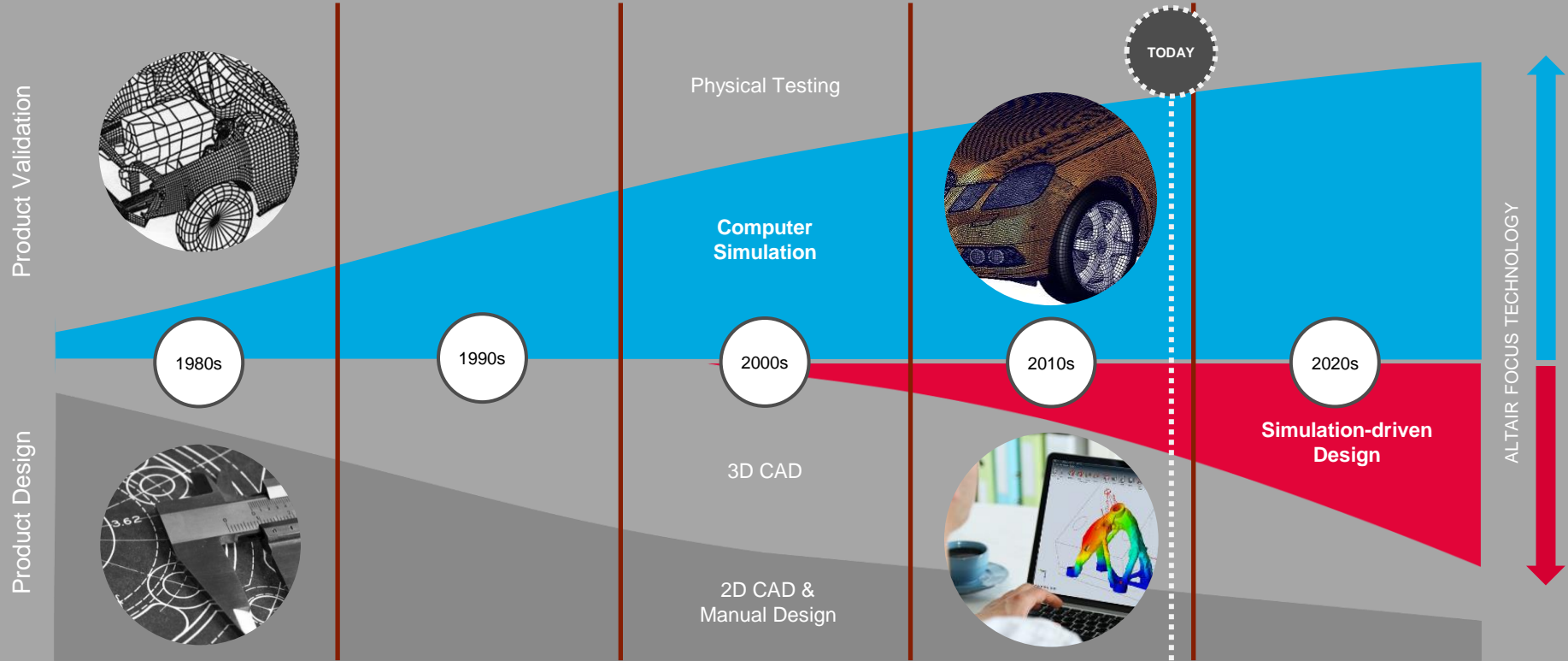


Software Demo

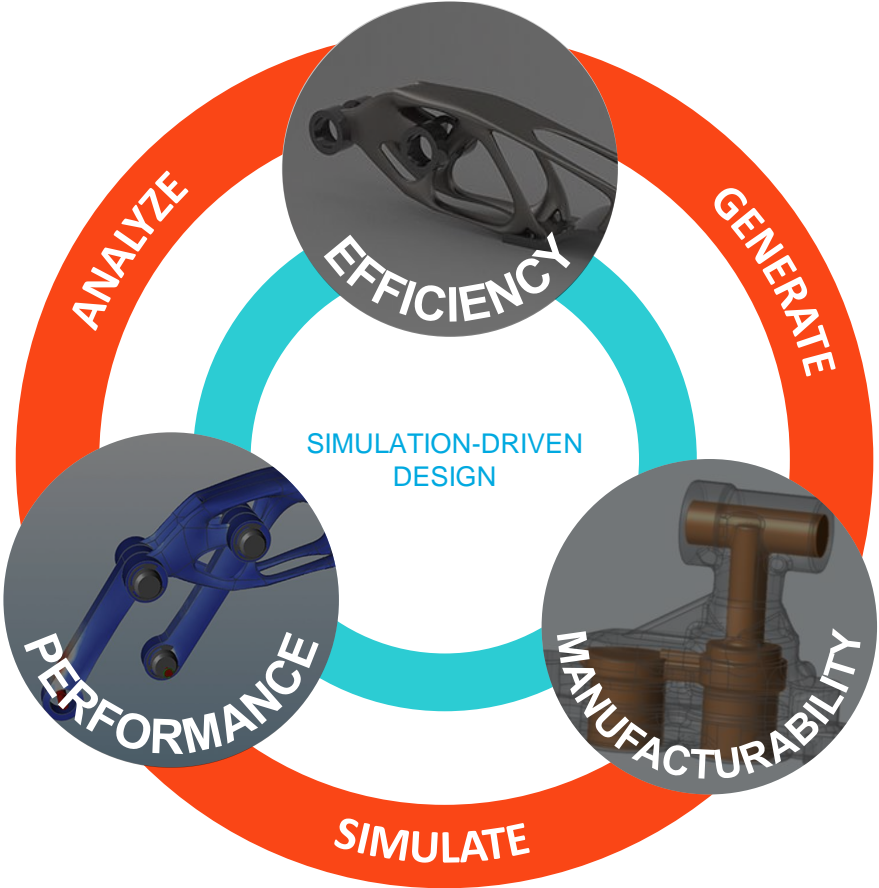


Benefits and Q&A

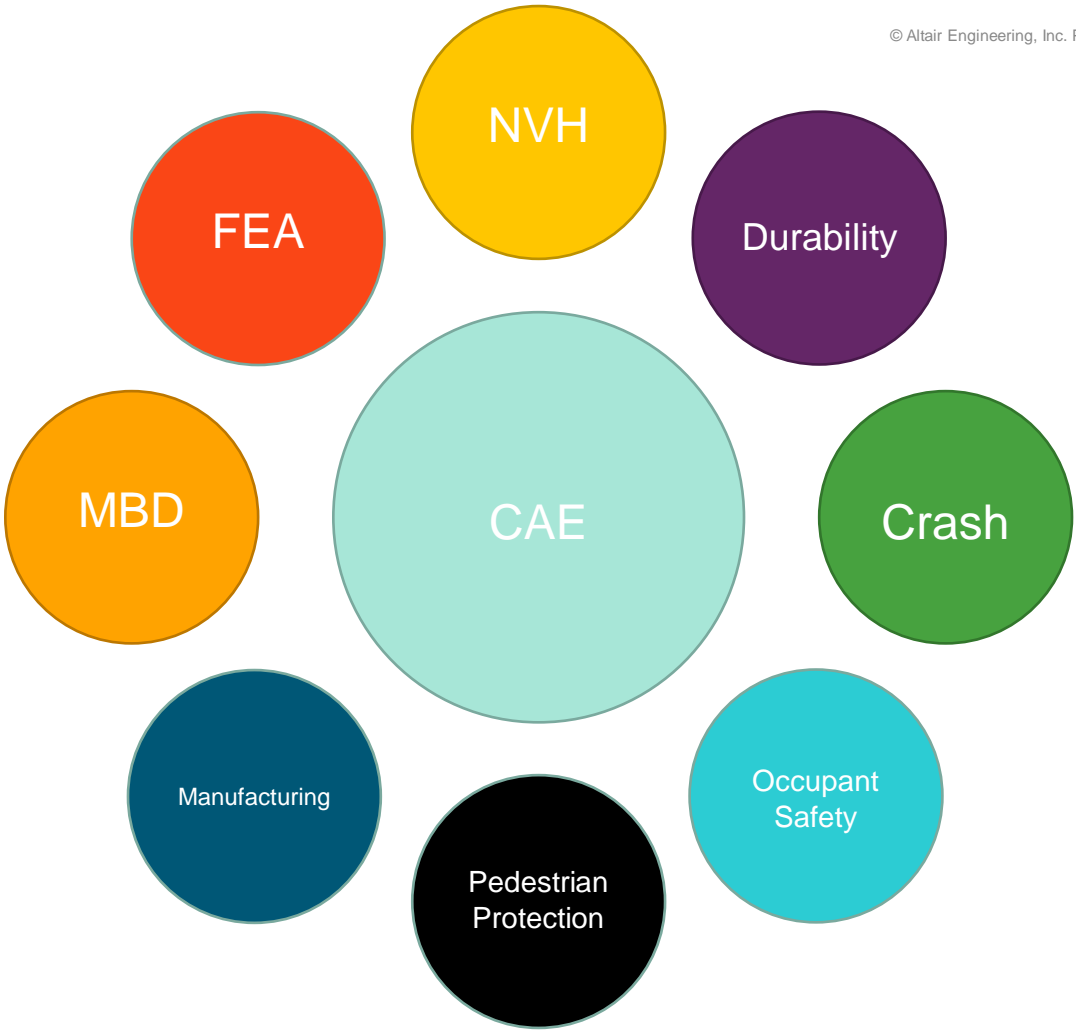
Evolution of Simulation-Driven Design



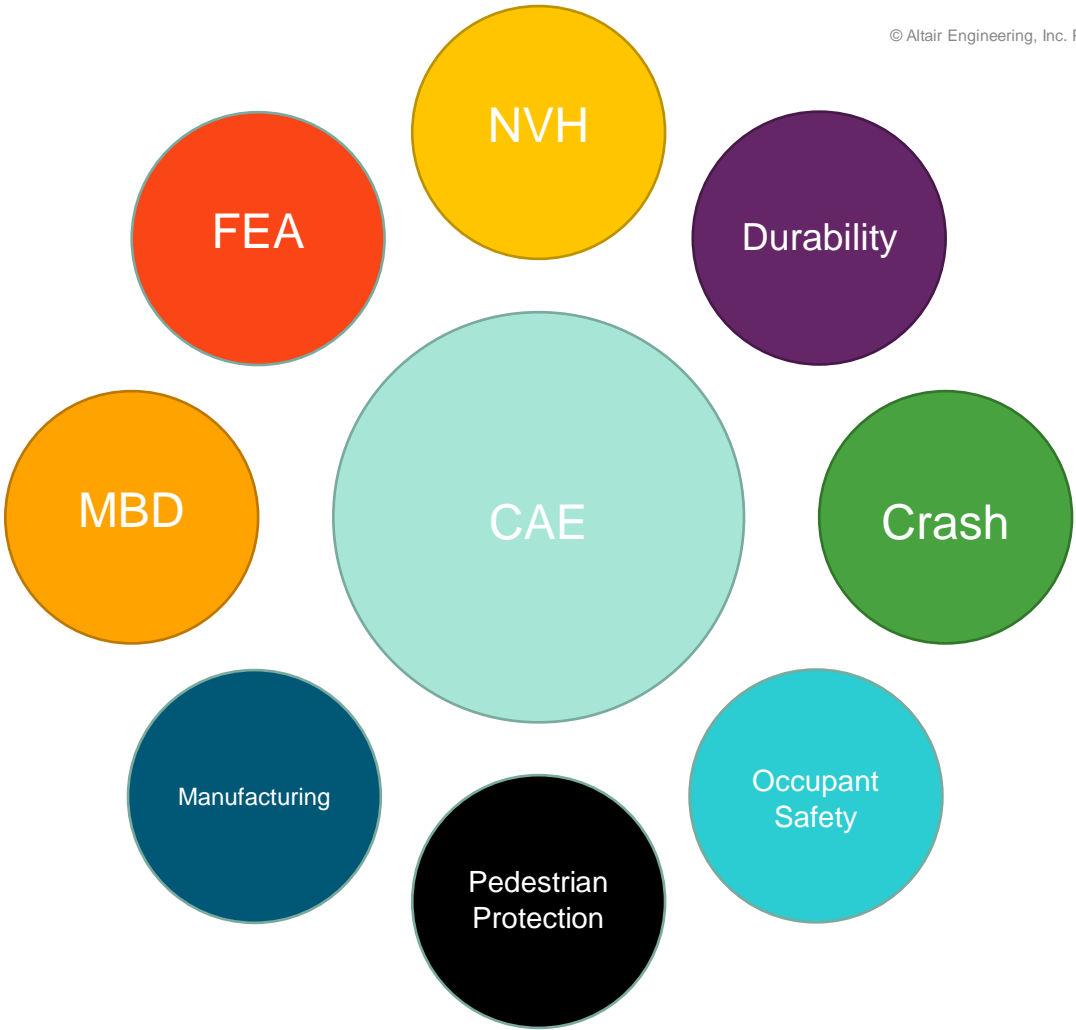
The Balancing Act



Disciplines



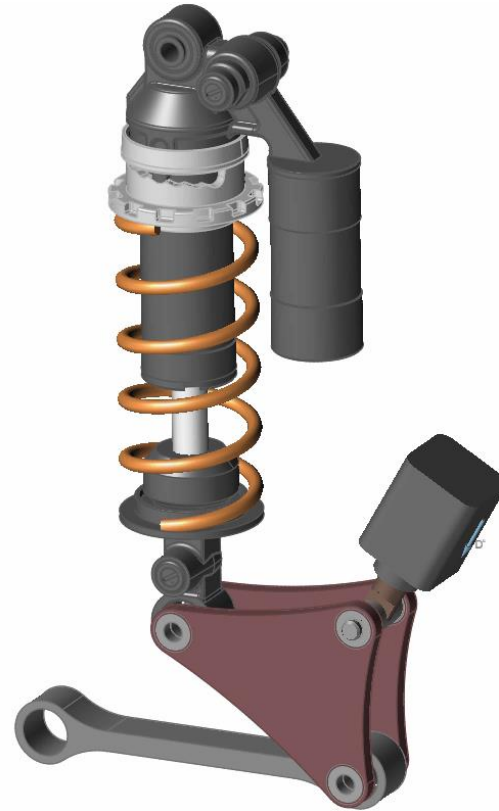
Disciplines



Workflows - FEA

How do we simulate our designs?

- 1) Physical Test -> Replicate
- 2) How it's used in real life -> Repli
- 3) MBD to Linear Static Analysis to O



The Workflow

Structures



Multi-Body Dynamics



Structural Analysis

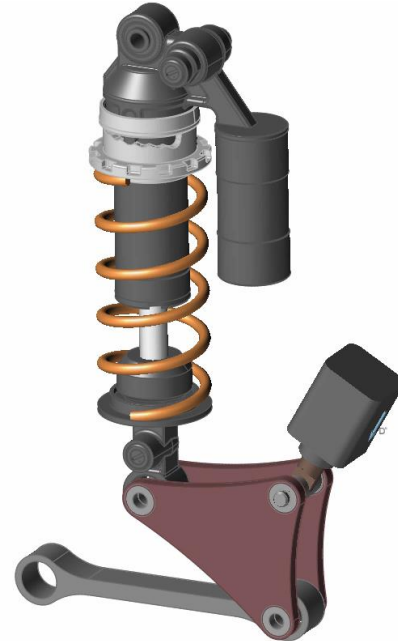


Optimisation

Multi-Body Dynamics

Why do we do it?

- To understand part assembly mechanisms
- To comprehend motion characteristics
- To design for its intended use
- To find generated loads on each component
- To take it through for a structural analysis



SOFTWARE DEMONSTRATION

Why do we use Inspire Motion?



Visualise

See how your mechanisms will move



Understand

Know what our component loads are



Optimise

Improve component behaviour given its motion



Save Time & Costs

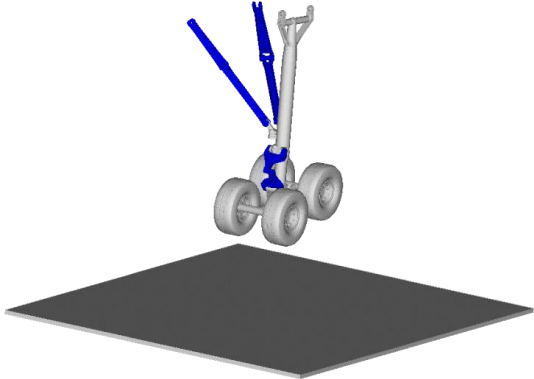
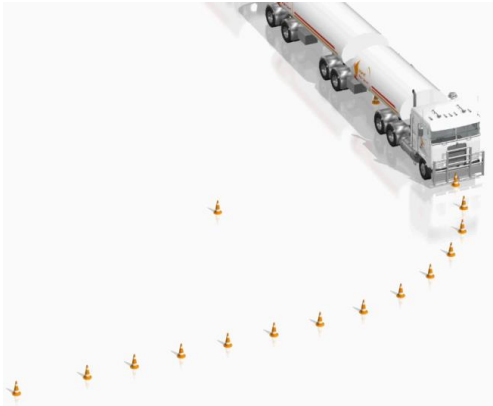
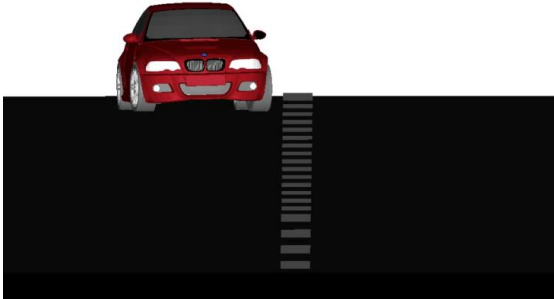
Get results quickly and derive load cases for FE studies



Integrational

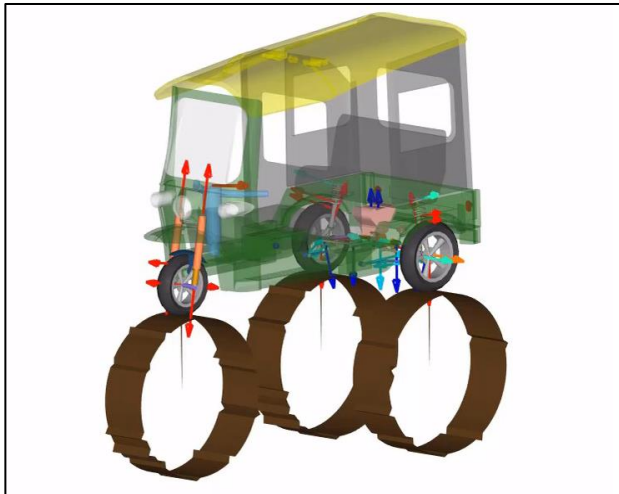
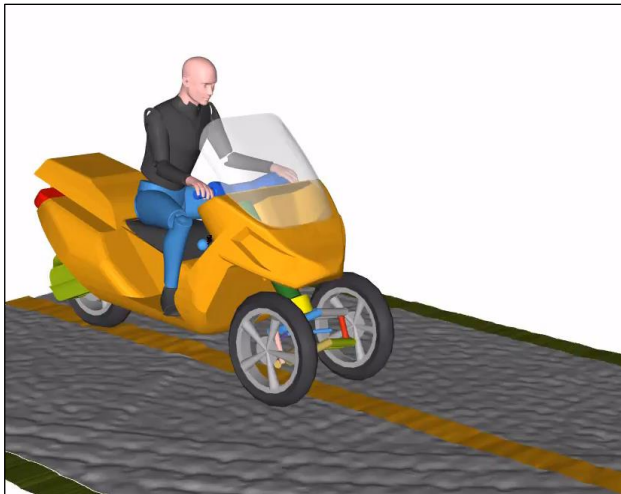
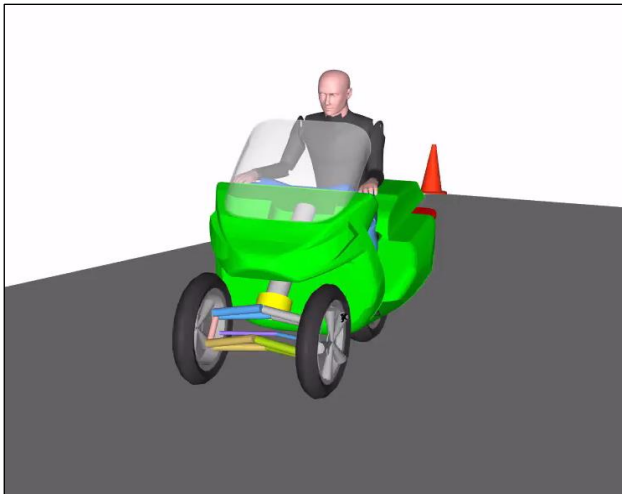
Easily share functional model between software and design teams

For More Advance MBD – use MotionView



MotionView

Vehicle Library Wizard



Vehicle Dynamics & Control

- Rider-machine interactions
- Vehicle stability and control
- Driver/passenger safety

Durability

- Component loads
- Component fatigue life
- Component damage

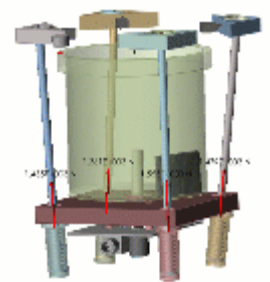
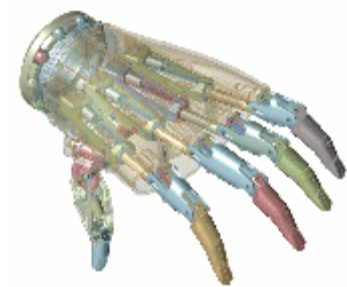
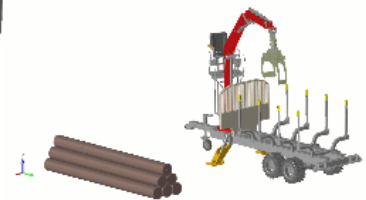
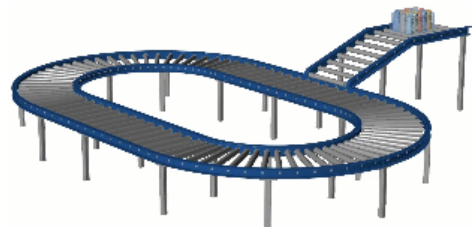
Ride and Comfort

- Vehicle response to road
- Rider response to road
- Active systems behavior

Benefits of Inspire Motion

Let's use MBD!

- ✓ Simulation Driven Design – full comprehension of your designs
- ✓ Quick and Efficient
- ✓ Uses MotionSolve – full capability and accurate MBD Solver
- ✓ Easily take it through to MotionView for more complex MBD analyses
- ✓ Optimisation derived from your MBD analysis





THANK YOU

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