

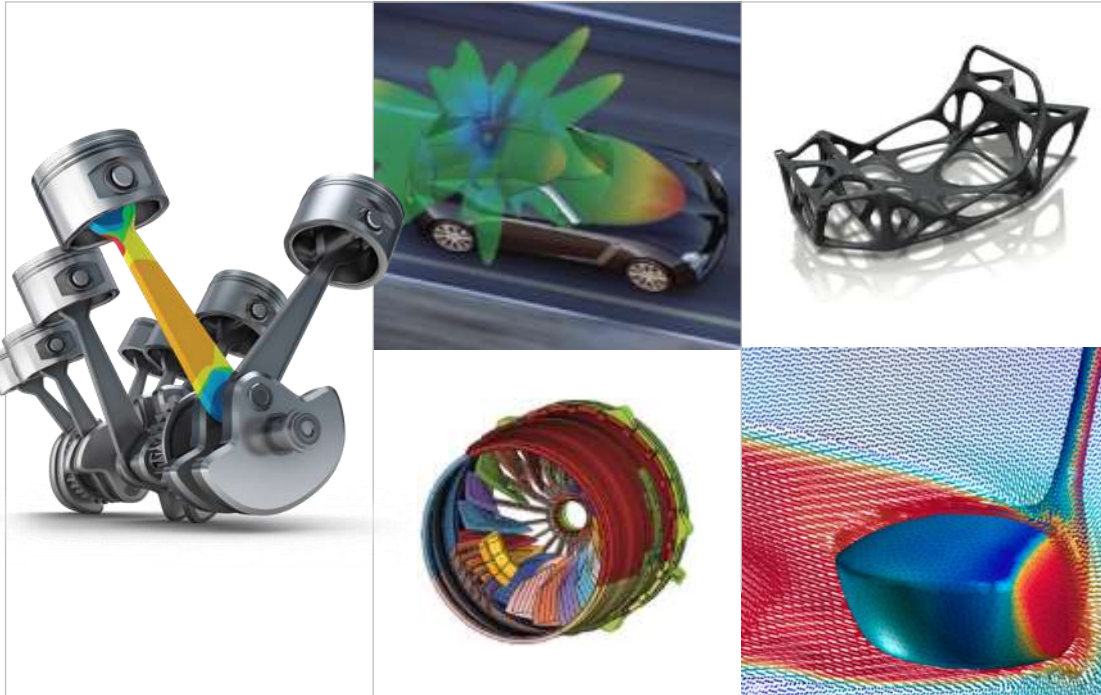
Altair HyperWorks 2018

A Platform for Innovation™

Hynek Purš
Advanced Engineering s.r.o.
May 10th, 2018



ALTAIR HYPERWORKS



HyperWorks is the most comprehensive open-architecture simulation platform, offering technologies to design and optimize high performance, efficient and innovative products.

Drive Innovation

Simulate Everything

Interoperate Freely

Access it All



ALTAIR SOFTWARE SOLUTIONS

		Concept/ID	Structures	Thermal/CFD	Systems and Model-based	Manufacturing	Impact	Composites	Electro-magnetic
Modeling and Visualization	Design and vertical apps	HyperWorks							
		Altair Partner Alliance							
		solidThinking							
Simulation Technology	Analysis	HyperWorks							
		Altair Partner Alliance							
		solidThinking							
	Optimization	HyperWorks							
		Altair Partner Alliance							
		solidThinking							
Cloud & HPC	Altair Simulation Cloud Suite								
	HyperWorks Unlimited								
	PBS Professional								
	solidThinking Envision								



Comprehensive Emag Analysis & Design

- Low Frequency: Flux
- High Frequency: FEKO
- Wave Propagation: WinProp

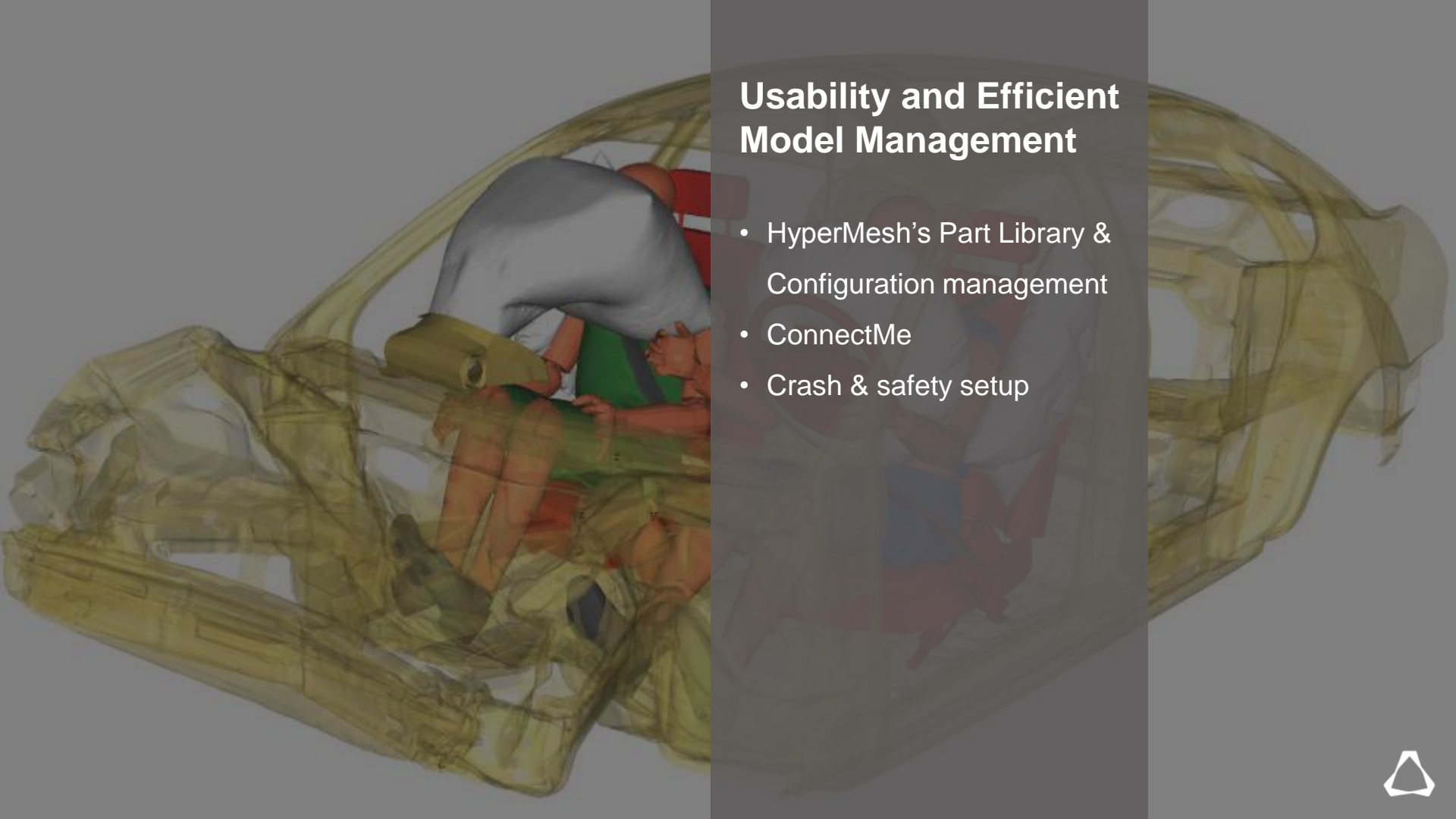


A 3D CAD model of a complex mechanical assembly, possibly a machine tool or a structural component. The model is rendered in a dark, semi-transparent style. Several parts are highlighted in a bright orange color, indicating areas of interest or specific material properties. The background is dark, making the white and orange elements stand out.

Material Modeling and Manufacturing

- Multiscale Designer
- Click2 Products
 - Metal Forming
 - Extrusion
 - Casting
 - 3D printing

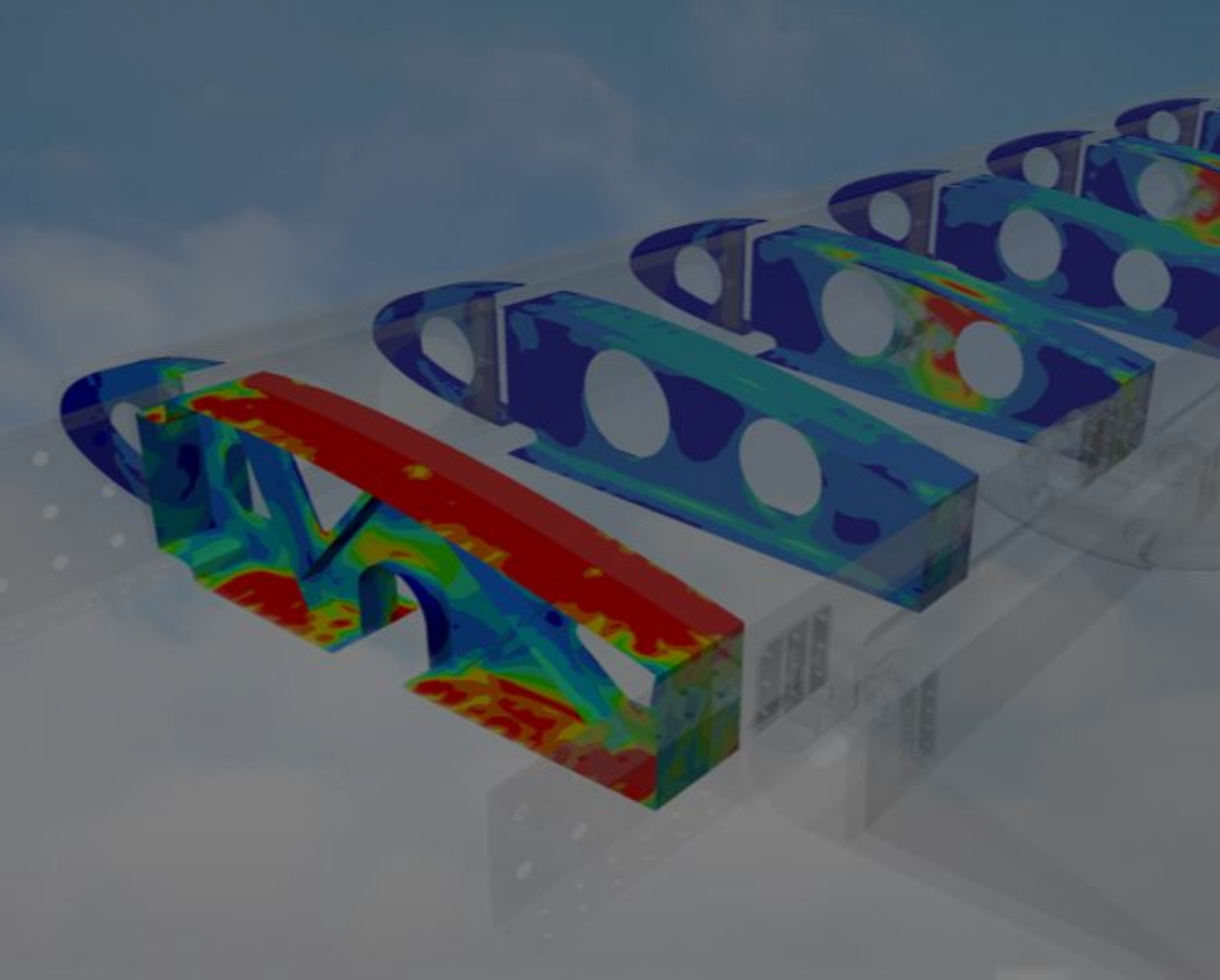




Usability and Efficient Model Management

- HyperMesh's Part Library & Configuration management
- ConnectMe
- Crash & safety setup



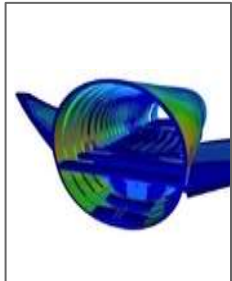


Multiphysics Analysis and Performance

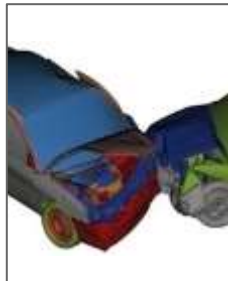
- OptiStruct's nonlinear
- AcuSolve turbulence models
- Complex multiphysics, solver coupling
- Major scalability improvements



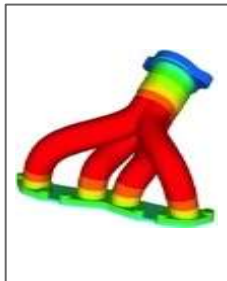
ALTAIR SOLVER TECHNOLOGY



Structural
Analysis



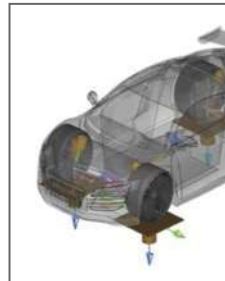
Crash, Safety,
Impact & Blast



Thermal
Analysis



Fluid
Dynamics



Systems
Simulation



Manufacturing
Simulation



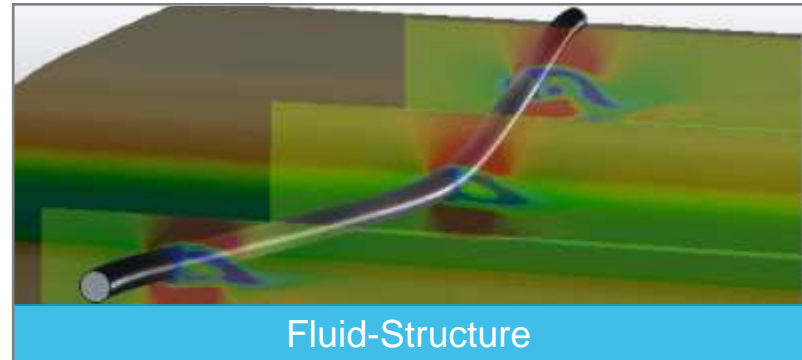
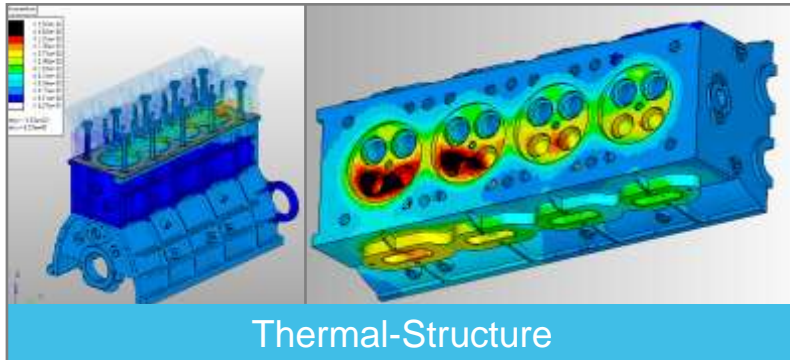
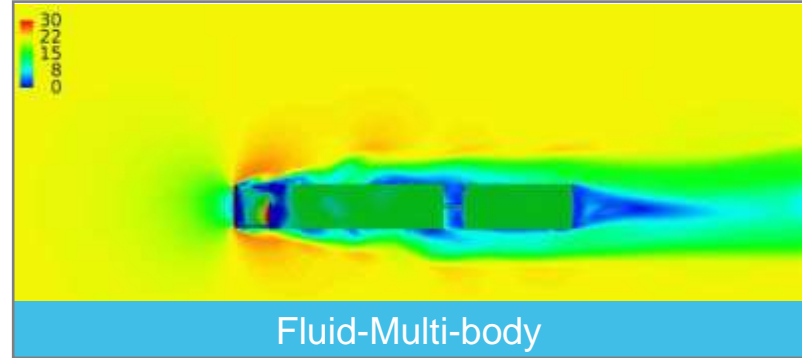
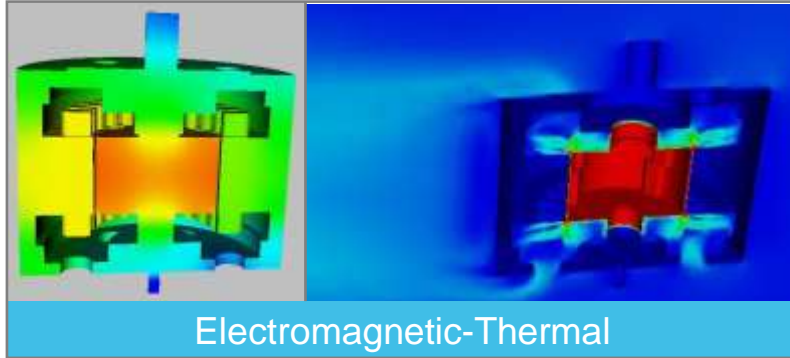
Electro-
Magnetics

Multiphysics Analysis and Optimization

Digital Materials



MULTIPHYSICS



HYPERWORKS 2018 – A PLATFORM FOR INNOVATION™

Learn more at
altairhyperworks.com/hw2018



SOLID THINKING INSPIRE 2018



WHAT IS SOLIDTHINKING INSPIRE?

solidThinking Inspire enables **design engineers**, **product designers**, and **architects** to create and investigate **structurally efficient concepts** quickly and easily.

Inspire helps its users to design products:



Faster



Smarter



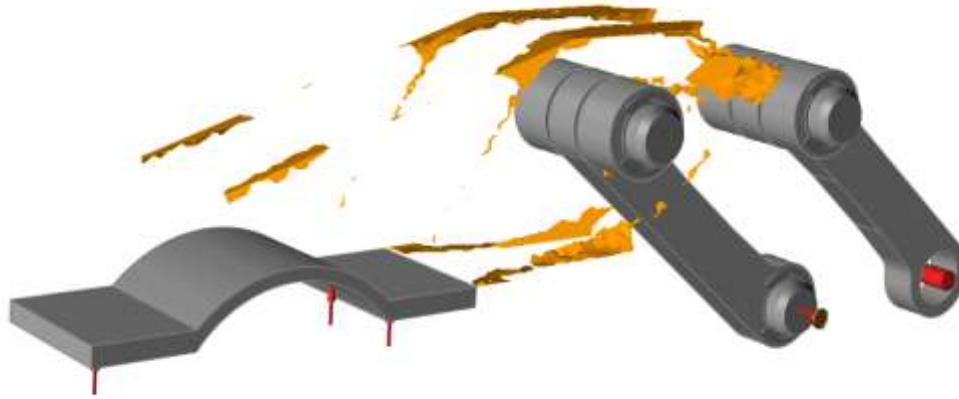
Lighter



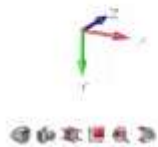
HOW DOES INSPIRE WORK?

Given the **package space** and **loading conditions** for a design problem, Inspire quickly generates the **ideal shape**.

Using Inspire typically results in **lighter designs** and helps **eliminate structural design problems**.



PREPARE THE PART FOR MANUFACTURING





INSPIRE TOPOGRAPHY SETUP





55% Mass Reduction

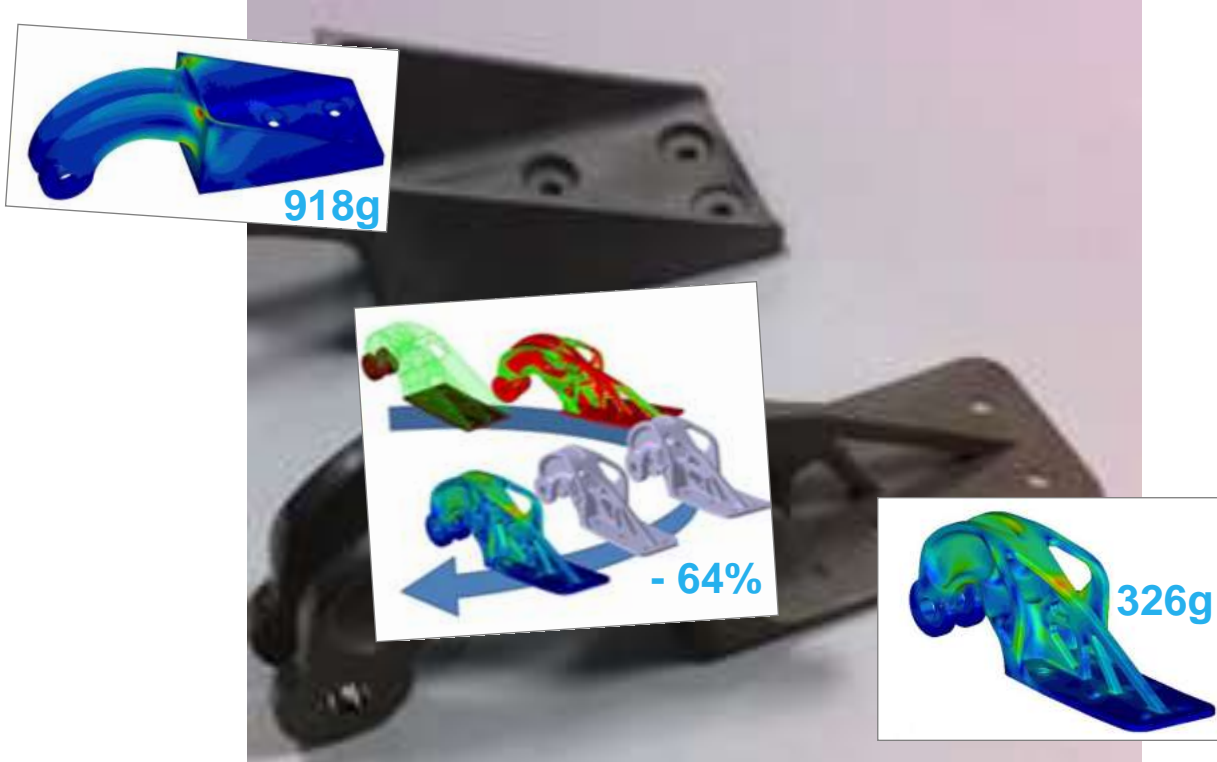




Cut Iterations in Half | 35-40% Weight Reduction



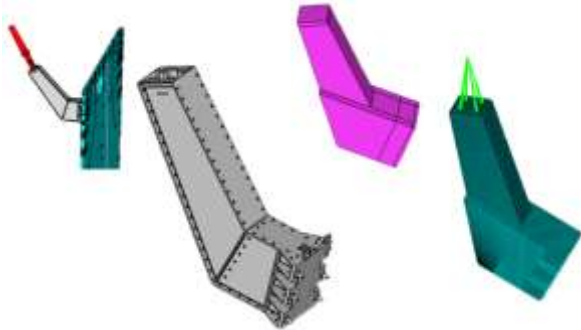
EADS



64% Mass Reduction

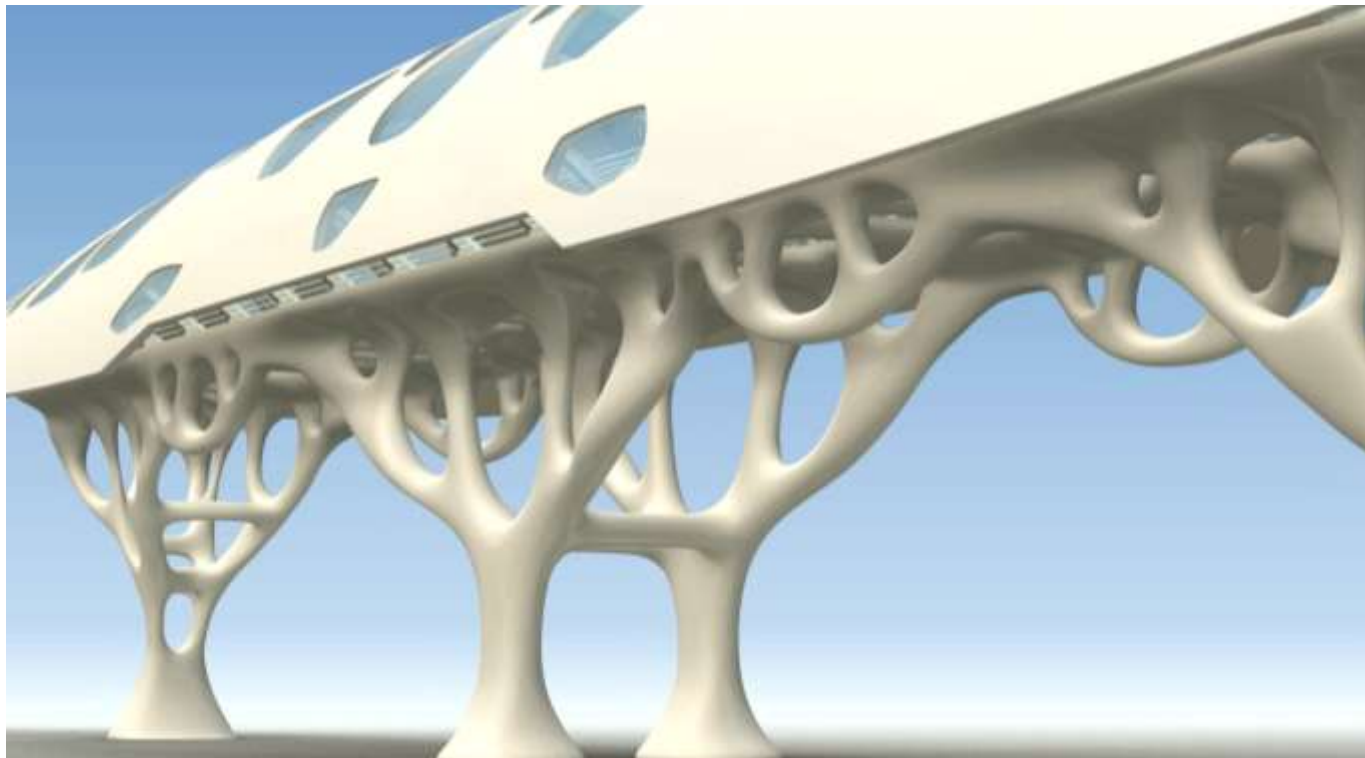


Together ahead. **RUAG**



43% Mass Reduction





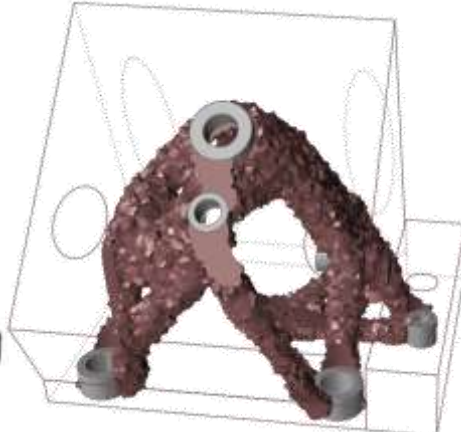
INSPIRE + METAL PRINTING

Original Design



CAD

Topology Optimization



PolyNurbs Design



Desktop Metal Part



 Desktop Metal™



Inspire



INSPIRE LATTICE OPTIMIZATION

