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Luxon Engineering Chooses Altair HyperWorks CAE Suite



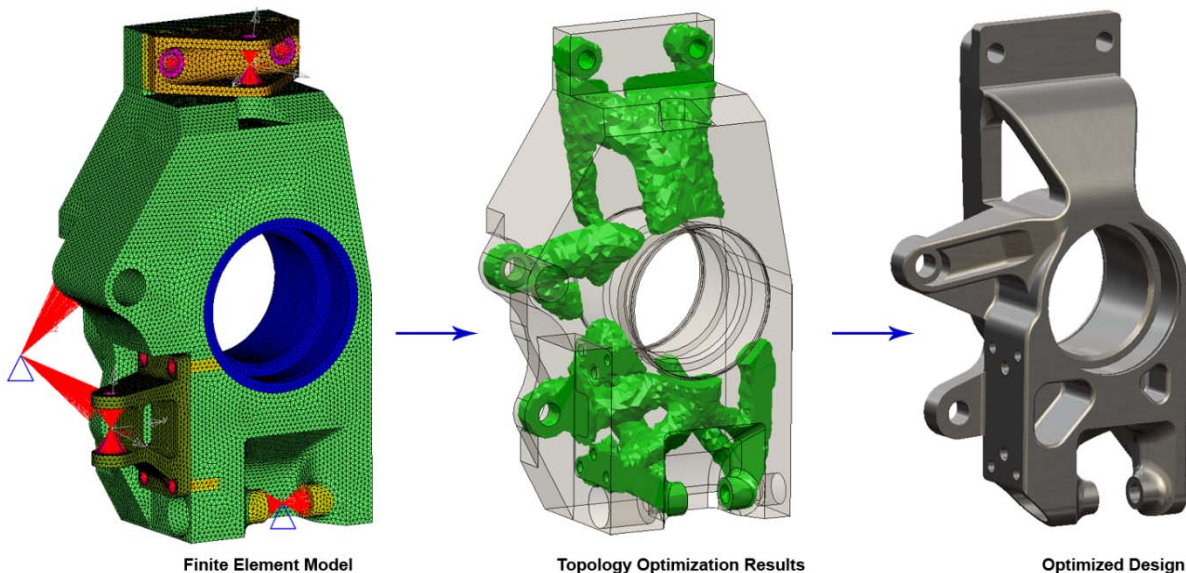
Luxon Engineering added the Altair HyperWorks software suite to their CAE tools today. The HyperWorks suite becomes Luxon's primary finite element analysis tool substantially increasing analysis capabilities. Altair's software includes full pre

and post-processing tools as well as the Optistruct, Motionsolve, and Radios solvers giving Luxon a wide variety of powerful analysis capabilities.

Perhaps the most exciting of these new analysis capabilities are the finite element optimization algorithms. Nearly any structural component can be optimized to a variety of design goals including minimization of mass, increase of stiffness, decrease of material, etc while being subject to design constraints such as maximum stress level, maximum compliance, or others. For example, a racing car's uprights can be optimized to be as lightweight as possible, while ensuring stress levels do not exceed the yield limit of the material and the displacements do not exceed a prescribed amount.

HyperWorks Suite Primary Capabilities

- Linear Static Analysis
- Non-Linear, Transient, and Dynamic Analysis
- Modal (frequency and buckling) Analysis
- Topology, Topography, Gauge, Size, and Shape Optimization
- Multibody Dynamics (Rigid and Flexbodies)
- CFD Pre and Post Processing
- Manufacturing Process Simulation



Topology and Shape Optimization Overview

Another example is the optimization of ply layup thickness, order, fiber orientation, and core thickness of a composite laminate using Topography and Gauge optimization. All the analysis and

optimization algorithms support multiple load-cases so the finished part will be optimized for all the loading conditions it will experience in actual service. A variety of manufacturing and symmetry constraints can be applied to the analysis to ensure a result that will be economical to manufacture. The optimal design is often non-intuitive and therefore not achievable using standard finite element software.

The optimization capabilities of this software will help Luxon Engineering to create superior designs, minimize errors and re-design, and decrease time to market; all of which increase our client's profits. Please contact us to see how this new analysis tool can benefit your product design.