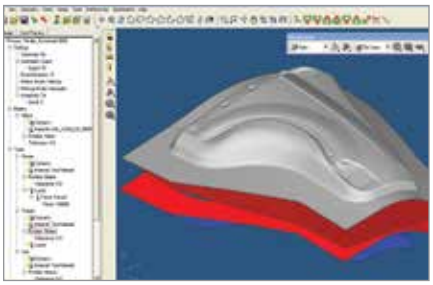
Product Highlights

- Efficient setup for complex multi-stage forming processes
- Intuitive browser-driven setup for process optimization
- Fast, robust and best-in-class incremental and one-step solver
- Customized post-processing tools with one click report generation

Simulation predicts wrinkles and splits accurately



Model setup captures knowledge for reuse

Altair® HyperForm®

Advanced Platform to Simulate and Optimize the Stamping Process

Altair HyperForm is a comprehensive finite-element-based sheet metal forming simulation framework. Its unique process-oriented environment captures the forming process with a suite of highly tailored and configurable analysis and simulation tools. HyperForm delivers a cost-effective solution that allows users to develop an optimal manufacturing process.

Benefits

Immediate Cost Savings
Remarkable cost savings is possible because of competitive pricing (based on Altair's patented HWU licensing) and dramatic reduction of product development lead time.

Accurate and Reliable Solver
The most accurate incremental sheet metal forming solver on the market (Altair® RADIOSS™) is seamlessly integrated into HyperForm's process-driven user interface. This solver accurately predicts wrinkles and splits prior to cutting steel, avoiding the unnecessary costs associated with die machining and press downtime.

Efficiently Captures the Stamping Process
HyperForm's open framework combined with an extensive built-in knowledge of the manufacturing domain efficiently captures the stamping process. User productivity is further increased through a comprehensive collection of tailored, process-oriented automations for virtually every stamping scenario.

Complete Solution for Stamping
HyperForm offers a complete solution for managing the entire stamping simulation process. It includes robust modules for feasibility and cost analysis, parametric draw die design, final process validation, process and die structure optimization, and results visualization are included, for end-to-end stamping simulation.

Metal Forming Solutions for Every Need

Product and Cost Engineers can study manufacturing feasibility and the impact of manufacturing on product performance under structural loading.

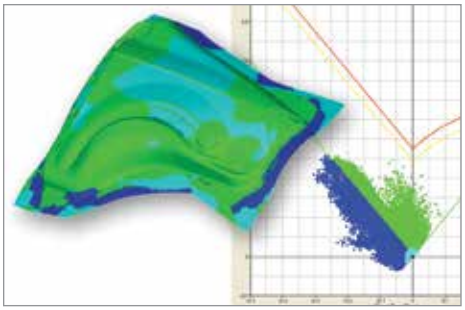
Die Designers can create conceptual draw dies with a parametric die module to run feasibility analysis or to iterate on the optimal die shape.

Process Engineers can validate a complex multi-stage stamping process by performing an accurate contact analysis to predict areas of wrinkling, high thinning, loose metal, springback and related manufacturing issues.

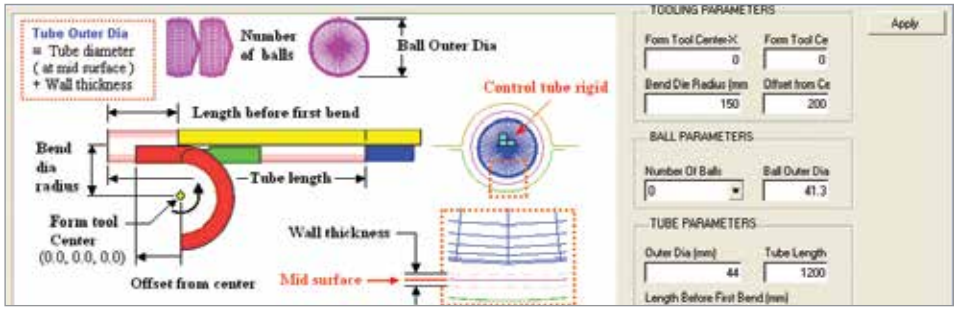
Capabilities

Fast and Accurate Feasibility Analysis
The fastest and most accurate inverse solver in the marketplace for quick one-step feasibility analysis addresses forming feasibility early in the product development cycle, minimizing downstream formability challenges and associated costs. It also enables rapid initialization of structural CAE models with thinning and work hardening resulting from stamping in order to incorporate the effect of manufacturing on structural performance.

Efficient Cost Analysis
The accurate blank shape prediction and intuitive nesting interface proposes proper



Forming limit diagram



Automated setup for tube bending

blank-sizing and layout to minimize material scrap at the early stages of the product development process.

Concept Draw Die Design

The intuitive, parametric, and NURBS based die face development module delivers a powerful tool for process engineers to quickly develop and verify multiple tooling options.

Fast and Robust Process Validation

Through its best-in-class incremental solver (Altair® RADIOSS™), HyperForm provides product and die engineers with powerful capabilities to:

- Analyze and validate the robustness of the manufacturing process
- Determine wrinkles and splits prior to cutting steel
- Avoid unnecessary costs associated with die tryouts

Results Visualization

Customized post-processing tools in HyperView® can be used to visualize blank draw-in, thinning, strains and stresses, and Forming Limit Diagram (FLD). One click report generation enables efficient communication and faster resolution of stamping problems.

Optimize the Process

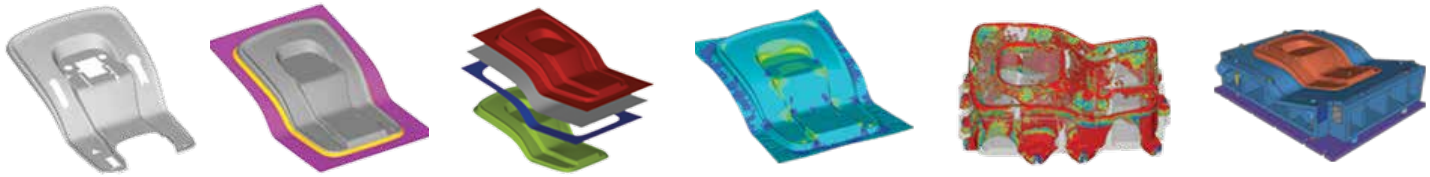
Through a seamless integration with HyperWorks optimization tools (Altair® HyperStudy® and OptiStruct®), HyperForm offers unique capabilities to analyze and optimize not only the sheet metal but even the tool structure, allowing die designers to conceive lightweight and stiffer structures.

Tube Bending and Hydroforming

In addition to the complete sheet metal forming capabilities, HyperForm includes powerful utilities for tube bending and hydroforming, delivering a nearly hands-off model auto-setup process.

Results Mapping

For precise mapping of stamping results from an adaptive or finer stamping mesh to a relatively coarser mesh, a general purpose results mapper is available under HyperCrash®.



Complete manufacturing platform for stamping simulation

Altair

1820 E. Big Beaver Rd., Troy, MI 48083-2031 USA
Phone: +1.248.614.2400 • Fax: +1.248.614.2411
www.altair.com • info@altair.com

For more information about HyperWorks products, visit www.altairhyperworks.com