# Altair® HyperForm™

## Highly Efficient Platform to Capture 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.



*Simulation Results Accurately Predict Part Failure*
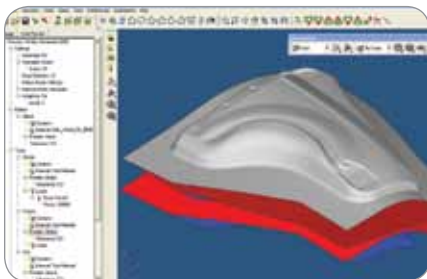


*Capturing the Process Knowledge Through the Intuitive Graphical User Interface*

## 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 allows users to quickly predict 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. This further increases user productivity through a comprehensive collection of tailored, process-oriented automations for virtually every stamping application.

**Complete Solution for Stamping**
HyperForm offers a complete solution for managing the entire stamping simulation process. This stamping platform boasts robust functionality, such as a feasibility analysis utility, parametric rapid draw die design, final process validation, process optimization, and results visualization to meet and exceed user's high-performance requirements.

## Metal Forming Solution for Every Need

**Product and Cost Engineers** can study manufacturing feasibility in combination with post-manufacturing performance changes.

**Die Designers** can build a process and create conceptual die designs with a parametric die module and run quick feasibility analysis or a detailed forming simulation.

**Process Engineers** can validate the conceptual or real die by performing a full-forming contact simulation to predict areas of wrinkling, high thinning, low spots, springback and related manufacturing issues.

**Die Tryout Engineers** can communicate more efficiently and improve productivity and part quality by utilizing the detailed reports automatically generated from the analysis.

## Capabilities

**Fastest Feasibility Analysis**
The fastest inverse solver in the marketplace for quick one-step feasibility analysis and results mapping addresses forming feasibility early in the product development cycle, minimizing downstream formability challenges and associated costs.

**Efficient Cost Analysis**
The accurate blank shape-prediction and intuitive nesting interface proposes
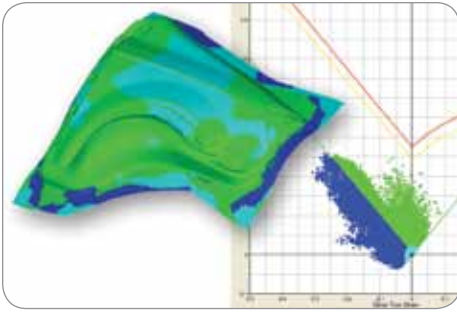
*Fast and Robust Part Feasibility Analysis*
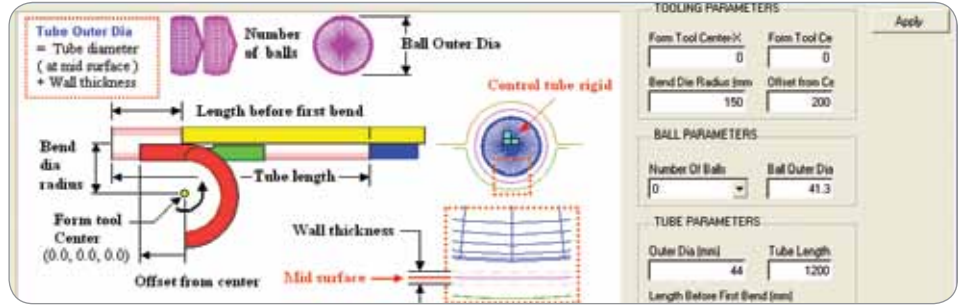


*Specialized Panels for Automated Model Setup*

proper blank-sizing, minimizing material scrap in the early stages of the product development process.

**Concept Draw Die Design Development**
The intuitive, parametric, and NURBS-based die-face-development tool delivers a powerful tool for engineers to quickly modify and verify multiple draw scenarios.

**Seamless Data Mapping**
Product engineers can study manufacturing feasibility in combination with post-manufacturing performance changes, seamlessly mapping the forming results to the structural or crash analysis models.

**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
• Determining wrinkles and splits prior to cutting steel
• Avoiding unnecessary costs associated with die machining and press downtime

**Optimize the Process**
Through a seamless integration with the 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 the die designers to conceive lightweight, robust and validated 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.
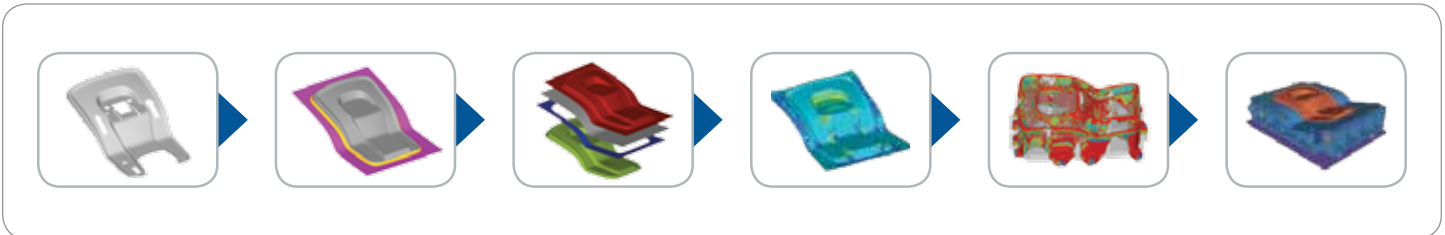


*Complete Manufacturing Platform for Stamping Simulation*

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