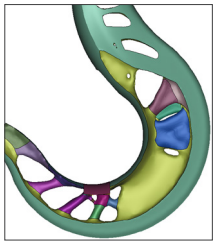
Altair | Partner Alliance

Altair's Complete Manufacturing Solution

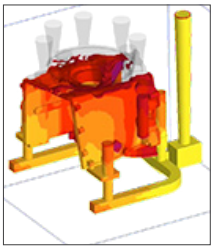
Altair's manufacturing simulation software suite combined with the Altair Partner Alliance (APA) products can address almost any manufacturing problem one could encounter in the product development cycle. Read below to learn about the broad coverage of disciplines available through the APA, and visit www.altairhyperworks.com/apa for complete product information and download.



3D Printing

3D printing is revolutionizing the manufacturing industry with its flexibility, light weight outputs, customizability and on-demand nature.

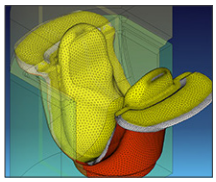
Materialise 3-matic enables design modification, remeshing and the creation of 3D textures, lightweight models and conformal structures, all on STL level. It's the ideal tool to bring topology optimization files faster back to CAD or to print. In addition, Altair's solidThinking Inspire may be used to generate optimized topology and lattice structures where 3D printing could be an ideal manufacturing process.



Casting Simulation

Casting is one of the most important manufacturing processes due to its versatility. Engineers can easily produce complex shapes, parts with hollow cavities, those that contain irregularly curved surfaces, and many others.

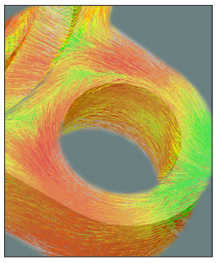
NovaFlow&Solid by NovaCast Systems is a fully featured mold filling and solidification simulation package based on advanced fluid flow and heat transfer theories. This advanced solution could be complemented at the early product design and process feasibility phase by Altair's easy-to-use Click2Cast software.



Forging & Metal Forming Simulation

Forging a common process used in manufacturing metal parts with very high strength, often by sealing cracks and compressing empty spaces within it.

AFDEX by MFRC is a general-purpose metal forming simulator based on rigid-elasto-thermo-viscoplastic finite element method, which is applicable for forging simulation as well as other bulk metal forming processes.



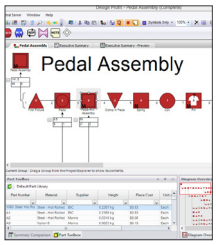
Injection Molding Simulation

Injection molding is the preferred method for manufacturing plastic parts, and the impact of this process on the structural and mechanical performance of a plastic part is significantly influenced by fiber orientation.

CONVERSE by PART Engineering creates material cards for OptiStruct, which include the angle of orientation for short-fiber-reinforced plastics that leads to material anisotropy.

Risk Management

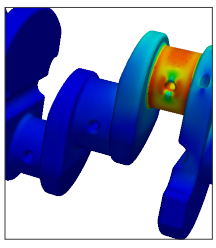
It is common for projects to run over budget and past deadline. Therefore, it is important to determine a design's maturity before going to production to help eliminate these problems by anticipating them early on in the manufacturing process.



Design Profit by Munro & Associates exposes waste and risk in designs to help make educated decisions in order to reduce design complexity and weight. PTB by SandboxModel allows for effective project planning to anticipate costs, necessary resources and time to deliver better products on deadline and within budget.

Welding Simulation

Welding is an absolutely necessary process applied to many industries, including automotive, construction and aerospace, among many others. Without this process, many structures we see and use every day would not exist.



Virfac, GeonX's Virtual Factory, addresses the advanced simulation of welding processes (fusion, friction stir, inertia friction, etc.) as well as heat treatment, surface treatment, additive manufacturing and damage tolerance.

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	Automotive	Aerospace	Consumer Products	Electronics	Heavy Equipment	Oil & Gas	Shipbuilding
3D Printing	X	X	X				
Casting	X	X			X	X	X
Extrusion	X	X	X				
Forging	X	X			X	X	X
Injection Molding	X	X	X	X			
Stamping	X	X	X	X			
Welding	X	X	X	X	X	X	X

A Unique Platform for Manufacturing Applications

The Altair Partner Alliance is a revolutionary initiative that grants customers access to partner applications using their existing HWUs with little or no incremental cost and minimal administrative effort under one simple licensing model.

The APA hosts a continuously expanding list of partner solutions, across a broad range of disciplines, serving the needs of hundreds of companies ranging from automotive, aerospace, and defense to consumer products, biomedical and heavy equipment.

Customers can go to the Partner Alliance website (www.altairhyperworks.com/apa) to learn more about the available applications, apply to join the program and, once approved, download the latest releases of any Partner Alliance applications. Support and training are provided to customers by the partner companies' application experts, ensuring the successful deployment of these new technologies.

Altair

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