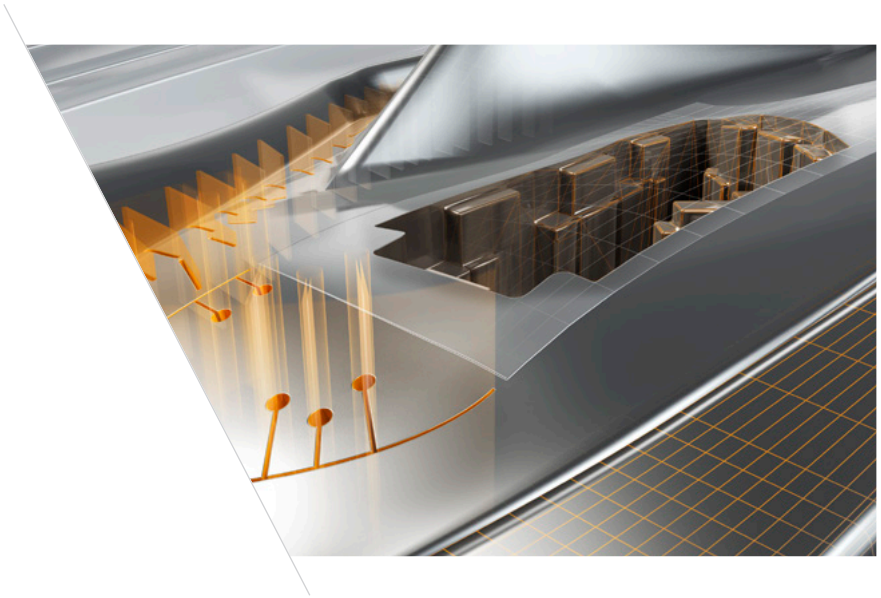
AUTODESK® POWERSHAPE®

Preparing complex parts for manufacture

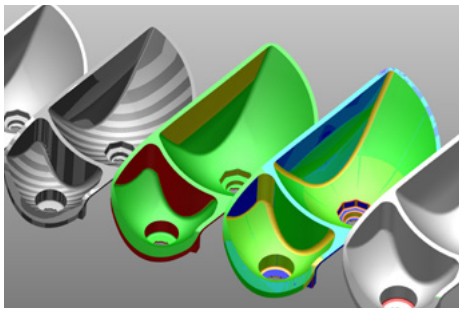
Visit **www.powershape.com** to find out more.



PowerShape is the ideal modeling companion for Autodesk® PowerMill® and Autodesk® FeatureCAM® helping you create the geometry you need to get the best results from your CNC machine.

Facing these challenges?

- Working with customers' models from many different CAD systems.
- Increasing pressure to convert imported CAD models into molds, dies and associated tooling as quickly as possible.
- Getting the most out of your 5-axis CNC machine and CAM software.
- Fixing your customers' faulty CAD files and modifying them to ensure they can be manufactured (e.g. adding draft, fillets etc.)
- Working with large, complex models requiring intricate split lines.
- Managing the design, production, and use of electrodes.
- Reacting to design changes arriving late in the manufacturing process.
- Scanning physical parts and converting the data into high quality, 3D models.



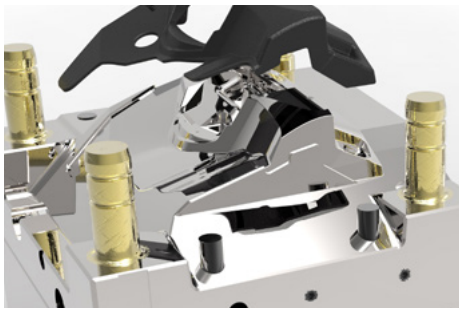
Modeling for manufacture

High volume, production parts are usually created by molding, casting or forging, all of which require the manufacture of some kind of mold, tool or die. Creating these, "modeling for manufacture" is where PowerShape excels.

Import models from all mainstream CAD systems. Automatically find and fix faults that could complicate downstream processes. Identify undercuts, small radii, and thin wall sections and use direct modeling to prepare your parts for manufacture.

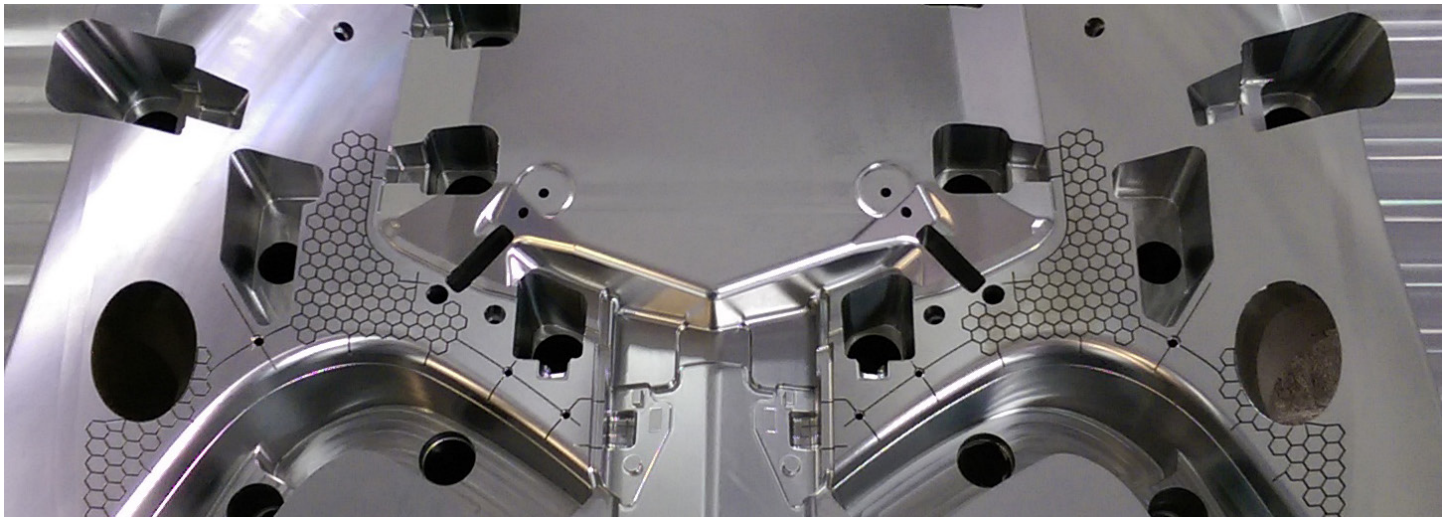
Your CAM companion

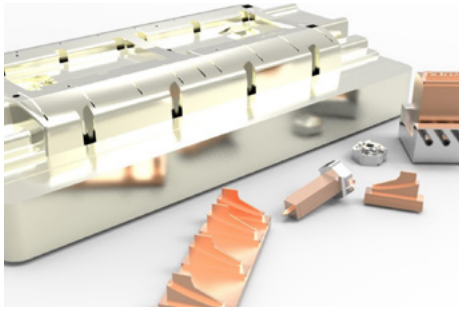
PowerShape is the ideal modeling companion for PowerMill and FeatureCAM, allowing you to create the geometry you need to get the best performance from your CNC machines. Define boundaries to control the extents of your machining. Construct surfaces and use them to better control your 5-axis machine motion.



Tool & die

PowerShape provides modeling tools designed to meet the needs of mold, tool and die manufacturers. Interactively find optimum line-of-draw to ensure tooling is cost effective. Add draft to vertical sidewalls with automatic blending of neighboring faces. Use dedicated wizards to convert your customer models into core and cavities with direct modeling of sliding cores and lifters.

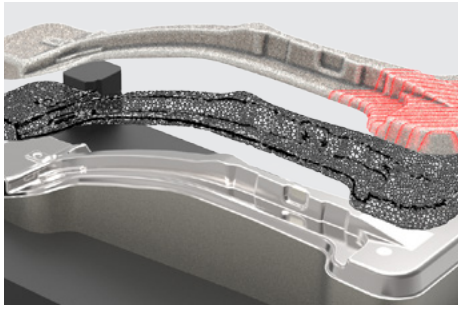




Electrode design, manufacture, inspection and utilization

To complement the design and manufacture of molds and dies, PowerShape includes a suite of modeling tools for the design, manufacture, inspection, and utilization of electrodes for use with EDM.

Quickly extract burn regions and combine with holders from major suppliers including; System3R, Erowa, and Hirschman. Output data to PowerMill for automated toolpath generation. Export scripts and macros to your shop-floor EDM hardware for trouble-free, datum setup and burning.



Reverse engineering

PowerShape combines surface, solid, point-cloud and mesh modeling in a single interface. Connect to scanning hardware and convert your physical parts into high-quality, 3D CAD models. Import, align and smooth point-clouds and meshes, then transfer to PowerMill for direct machining.

Convert your scan data into precise surfaces and solids and use with direct modeling to prepare parts for manufacture. Morph your surface models to match imported mesh data and compensate for the effects of gravity and stress-relief on forgings and thin walled components.

10 reasons to choose PowerShape

1. Import models from all mainstream CAD design systems.
2. Find and repair critical faults that could complicate downstream processes.
3. Use modeling tools specifically designed to help mold and die manufacturers.
4. Carry on working, even if the imported CAD model is not perfect.
5. Work with any combination of surfaces, solids and large STL meshes.
6. Send finished models directly to PowerMill or FeatureCAM for machining.
7. Split models into cavity, core and slides using a simple Wizard.
8. Manage the design, manufacture and utilization of electrodes for EDM.
9. Connect directly to scanning hardware for reverse engineering.
10. Reverse engineer complex parts using powerful point-cloud and mesh modeling tools.

“The interaction between PowerMill and PowerShape has definitely streamlined our ability to manufacture molds. We can start making chips right away.”

– Shawn McNamara, Designer | Chicago Mold Engineering