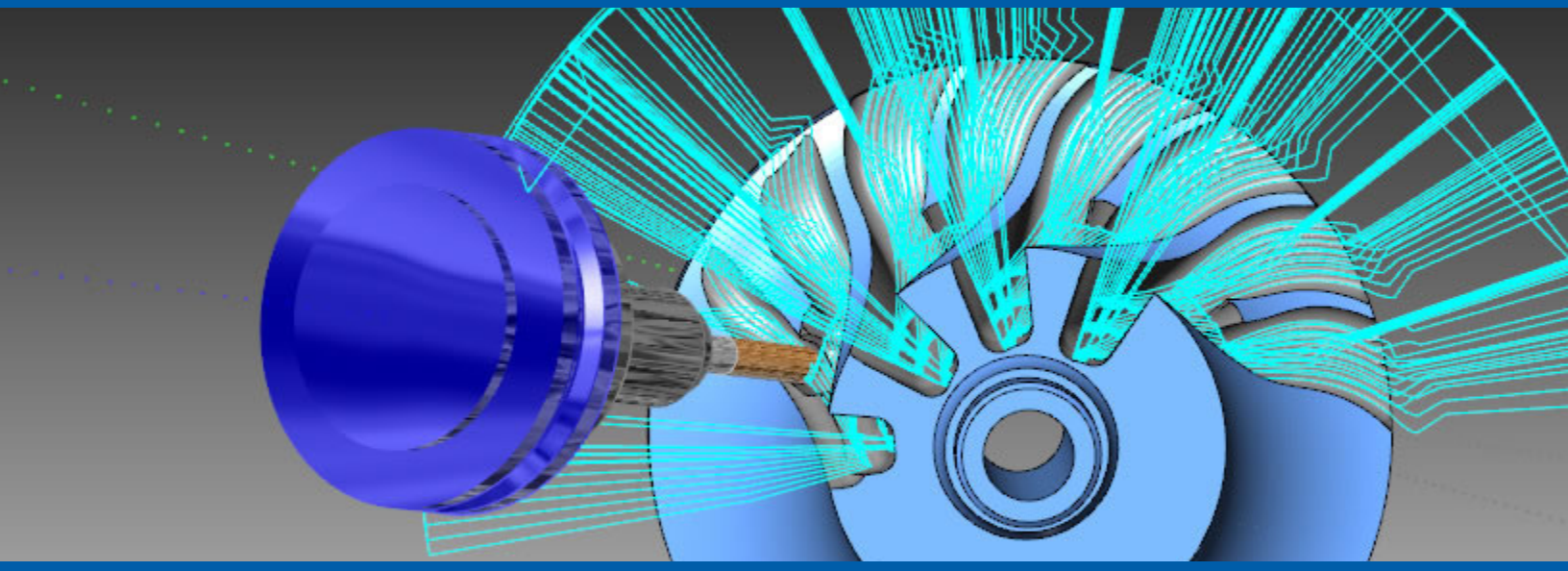
BobCAD-CAM



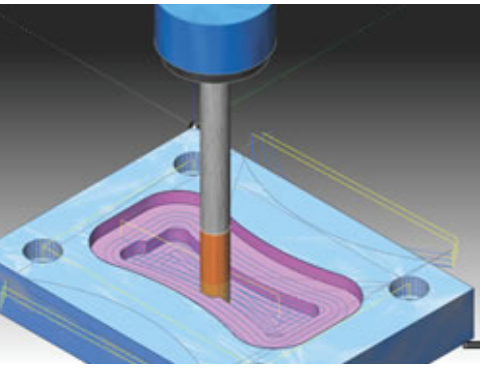
CAD-CAM in Manufacturing Process

BobCAD-CAM

CAD-CAM in
Manufacturing Process

CAD-CAM in Manufacturing Process

Computer Aided Design & Computer Aided Manufacturing (CAD-CAM) software is a utility used in CNC programming automation. It allows us to not only innovate and design the products we live with and use in our every-day lives, it is the solution to CNC machining products more efficiently, smarter and more profitably than ever before. Ever wonder how the things we use are made? How is it that when we shop for things, that there are so many to pick and choose from? Not only this, but these items are more affordable, easier to access and being produced faster and faster than they were even 10 years ago. Part of the answer to these questions is the CAD/CAM software that is being used to produce these things along with major advances in computer hardware within the last 10-15 years. From the production of rockets to cell phones and just about everything in between, CNC manufacturing businesses rely heavily on the CAD-CAM software that is developed today as a key solution to keeping production workflow efficient, lean and profitable.



Limitless Innovation

CAD Design software technology has changed the way we innovate in the 21st century. CAD modeling technology allows us to be more creative in designing through software functionality, freeform solid and surface modeling and more. Design software such as SolidWorks now exists allowing the creation of super complex assembly models with the ease and freedoms that designers had only dreamed about 10 years ago. Stress analysis, motion analysis and real rendering capabilities that are so popular it is now used as a sales tool. CAD design and engineering technology is still growing and being developed more affordable than ever before. Major achievements were reached in the 1980's by Alberto Paoluzzi and other colleagues of his at the Universities Roma Tre and La Sapienza in Rome Italy when the first PLaSM (Programming Language of Solid Modeling) was developed. This technology was actually used by the University of Rome to create a vast database of ancient Roman Architecture. This was the use of solid 2D and 3D objects along with Boolean operations to create models. The next 10 years saw the development of solids and surface based modeling utilities allowing further drawing and editing capabilities of these advanced geometry types. Take the shoe industry for a moment. CAD technology was originally introduced to shoe-making in the 1970's and was initially used for what is called "pattern grading" removing the complexities from the process. Now CAD software can provide data in the design stage that is used for planning and each step of the manufacturing process. From long distance collaboration to in house CNC machining, many industries benefit greatly from the advancements in CAD design technology which makes the ability to innovate virtually limitless.

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CAD-CAM in
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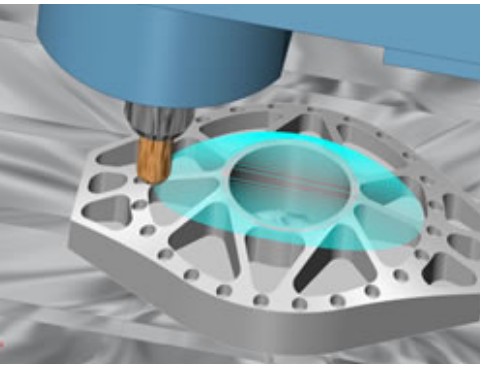

CNC Automation

CAM software has steadily evolved over the last 20 years from originally a DOS-based wireframe geometry oriented product for basic machining drilling, profiling and pocketing to highly complex surface based machining technology that include trochoidal style high speed toolpath operations more recently. CAM technology focuses on the machining side of the manufacturing process. This is the setting up of a job which includes work coordinates, cutting conditions, tooling and toolpath all organized in order to create a numeric "G-Code" program that is used by the CNC machine tool controllers to make the part. From production machining, mold-making tool & Die applications to custom fabrication and more, the CAM software has the ability to create toolpath and NC programs for 2, 3, 4 and full 5 axis cnc machining. Some CAM systems allow for higher axis cnc programming.

The ultimate goal of CAM is to offer the necessary functionality for a cnc business to automate the machining process, improve workflow efficiency and remove programming mistakes, scrapped parts and reduce machine cycle times. Basically produce cnc parts faster, smarter and easier supporting profitability and growth.

CAM was originally developed as an advanced productivity tool leveraging the professional skills of machinists and engineers and allowing for the development of future manufacturing programmers giving them a solution to increase visualization and cnc production. CAM intelligence has increased to the point of being able to interrogate a part model and determine attributes that dictate the toolpaths, tooling and optimized machine tool cutting feeds and speeds. Some CAM products refer to machining operations within the product as "features" that can be edited and that are associated to the part model, making on-the-fly model/toolpath modifications fast and accurate in terms of updating feature changes within the program or job. Again, the purpose is to provide higher automation levels, keep things simple and eliminate waste or programming mistakes that can be expensive. As long as there are cnc machines, there will always be a need for it. In terms of implementation costs, CAD CAM software has gradually become more and more affordable over the last 15 years. What used to cost $50,000 now can be found for $20,000 and on down the line. The true cost of CAD/CAM is how much a cnc business is losing every day by not implementing it into the manufacturing process. This is really the truth of it considering the competitive climate of our current manufacturing economy. Recent surveys tell us that North American CNC businesses have more than one CAD/CAM product which tells us that no, one product does everything and that prices have allowed more shops to become dynamic in terms of the machining technology they use. While we do not see this slowing down any time soon, CAD/CAM continues to make manufacturing productivity lean and profitable.

If you are a CNC business that is looking for solutions to cnc productivity, job management and want to start providing more machining services to your clients and market, start researching the latest in CAD/CAM technology. By visiting www.cadcamsoftware.com you can get a free brochure; "5 Easy Steps to Choosing a CAD/CAM Product" which will help you in the discovery process. You can also get a free CAD/CAM trial system at www.bobcad.com or by calling them direct at 877-262-2231 or 727-442-3554 today.

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