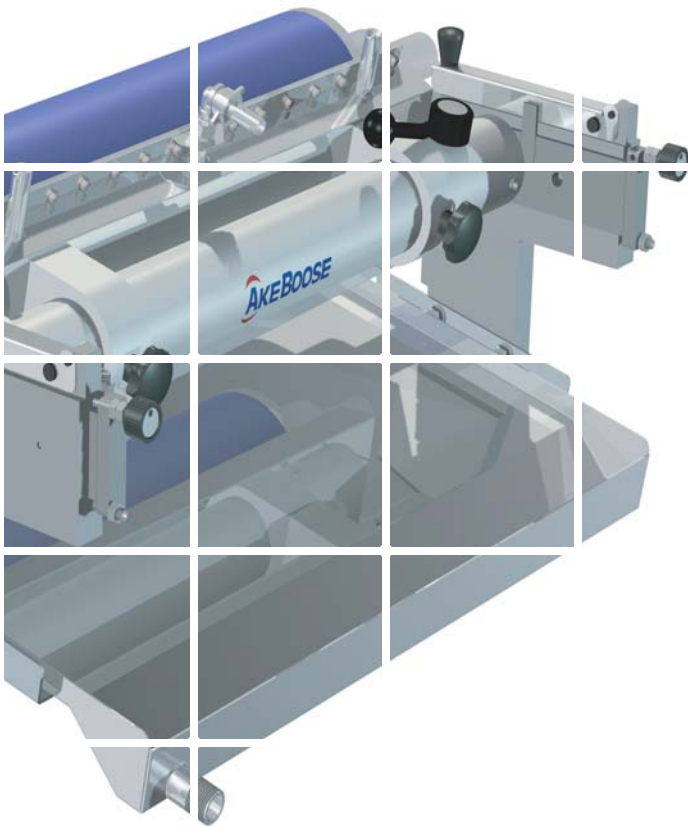


IRONCAD

The Fastest and Easiest Way to 3D

Today's successful companies are the ones that have found a way to bring more competitive products to market quicker, with higher quality at a lower cost than their competition. These companies value increased productivity and the solutions that can deliver it.

IronCAD understands this need for easy to use, highly productive tools that can be used either stand alone or incorporated into a broader corporate PLM initiative. It is that understanding that has led to the development of IronCAD.



Why IronCAD?

IronCAD™ is the productivity leader when it comes to moving creative ideas into full 3D reality. It utilizes a breakthrough Creative Design approach that delivers a level of design freedom unmatched in the industry today.

IronCAD is the tool of choice for design engineers when deadlines are tight and a high degree of unanticipated change is to be expected.

It provides a fresh alternative to today's history based parametric only systems by providing the additional capability of a radical new drag and drop 3D environment that delivers unmatched ease-of-use, and superior productivity.

IronCAD, since its introduction, has received many awards because of its innovation in the areas of 3D design. It allows a new engineering user to be productive after only a few days while allowing unprecedented productivity for the experienced user.

IronCAD was engineered from the ground up with visual drag and drop concepts at its core, intuitively extending familiar Windows concepts into 3D. The result is a solid modeling solution that is more productive in Creative 3D Design than any of today's leading CAD systems.

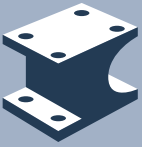
The IronCAD Difference:

The IronCAD Difference is the increased productivity and design freedom experienced when using IronCAD's radically new Creative Design approach.

Creative Design can best be described as:

- The freedom to design without the end in sight.
- The freedom to choose when and where to apply design intent and constraints.
- The freedom to change ones mind without having to rebuild the model.
- The freedom to load another's design and modify it without fearing the unexpected.

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Creative Design Benefits:

The Creative Design approach delivers the following key benefits to the user.

Improved Design Productivity:

Drag and Drop

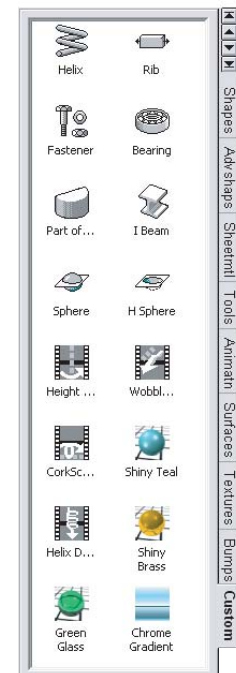


Drag and Drop - Drag and Drop of basic geometry features from pre built catalogs allows models to be built faster than with the current CAD approach of first building a profile, and then performing some operation on it. IronCAD provides both methods of building models but allows the user the freedom to select the one that would give him the most productivity.

In context design - Traditional CAD systems create what is called a feature tree that captures the order in which the features were combined to create the model. When you want to edit a feature in this tree all the features that occur after that point in the history are blanked out. Software that utilizes this approach creates a non-productive situation for the user because many times the feature they would like to reference has been removed. IronCAD does not have this restriction. A user can reference any visible feature on a part while making any required changes. This makes it both easier and faster for the user.

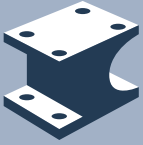
Single design environment - IronCAD is very unique in that it does not require the support of a separate assembly and part file, instead it only requires a single file which has the ability to support both parts and assemblies seamlessly. This approach allows the user to effortlessly move between part and assembly design. It allows parts to be created in context to the full assembly model without having to setup a constraint relationship first. This fully-integrated environment allows the user to let the assembly structure evolve within a single file, and and at any time link out or insert files as required to create the desired assembly structure.

Catalogs - Catalogs provide a fast method to quickly apply design components such as Intellishape™ features, parts, assemblies, textures, animations, etc, to the model by simply using the Windows drag and drop standard interface. It is this drag and drop approach that dramatically improves the design productivity of the user. The user can use the catalogs as in-process storage locations; a place where they can obtain the most commonly used pre-created features/parts/assemblies. Each user has the ability to create their own custom catalogs on the fly, significantly improving their overall productivity.



Catalog Technology

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Design Flexibility:

Import/Export - IronCAD has a complete set of data translators that allow both facet and solid geometry to interchange with all leading systems. IronCAD allows engineers to confidently exchange and make use of CAD data throughout the design process, as well as enabling power users and novices to share parts or assemblies. Additionally, beyond the simple import of CAD data from other systems as static reference geometry, IronCAD actually can utilize and modify imported data as though it were created natively.

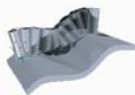
Dual Kernel - IronCAD supports both the ACIS and Parasolid kernels simultaneously allowing the user to seamlessly switch between the two. Through kernel collaboration if one kernel fails to perform a certain operation the other kernel is automatically called to see if it has better success. Through this collaboration between the two kernels the user ends up benefiting from the strengths of each during the modeling process. Dual kernels help when collaborating with other users since it allows the user to design using the same kernel as their partner. Performing a native kernel data transfer is always more reliable than using a standards based neutral format transfer.

DFM - Direct Face Modeling (DFM) allows model modifications to be made irrespective of the previous feature history or in cases where it does not even exist. Being able to directly overwrite feature history when desired results in tremendous productivity gains over the process required by today's feature based systems. DFM is very effective when working with imported b-rep geometry that does not have feature history. Today's systems have to rely totally on feature recognition but when that fails they do not have an alternate editing method. Unlike this limitation, IronCAD can treat an imported b-rep model as if it was created natively using DFM.

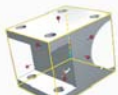
Ease of Use:

Handles - IronCAD was a pioneer in the use of dynamic handles for mainstream mechanical design. From its earliest beginnings this patented approach has consistently been enhanced until today it is the most productive way to design available anywhere. IronCAD handles can be found at the profile, feature, part, and assembly levels. They can be used to position, size, scale, rotate and snap to just about anything. You can even change their orientation to provide just the right snap behavior. Handles in conjunction with SmartSnap creates a fast, precise, easy to use design environment that enables the novice to pick it up immediately and the expert to reach the highest levels of design productivity.

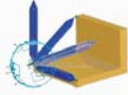
IronCAD Difference



Drag&Drop



Intellishapes



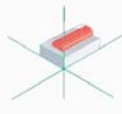
TriBall



Direct Face Modeling



Photo-Realistic Rendering

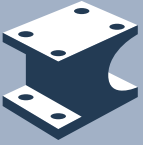


SmartSnap

SmartSnap™ - SmartSnap, a dynamic 3D constraint solver, which provides precise positioning and alignment while graphically dragging Intellishape features. It allows the user to see which face, edge, and vertex or center point they are about to select for the active command. SmartSnap in conjunction with drag and drop and handles creates the fastest most productive design environment available today.

TriBall™ - The patented TriBall, a remarkably intuitive multi-purpose tool provides precise positioning or copying of any objects by translation, rotation, mirroring, patterning or any complex 3D transformation. This array of operations is accessed through a single graphical interface making it very powerful yet easy to use.

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Improved Design Visualization and Communication:

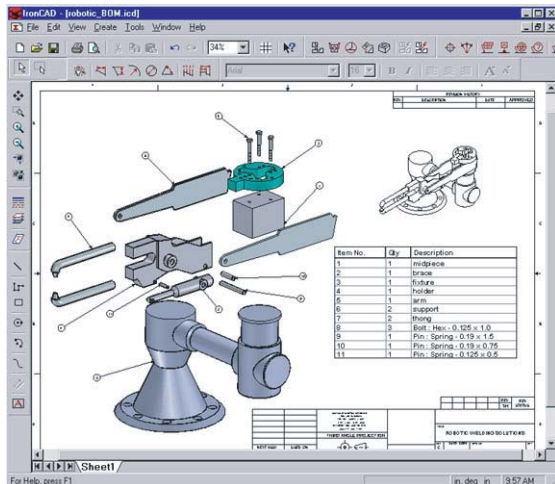
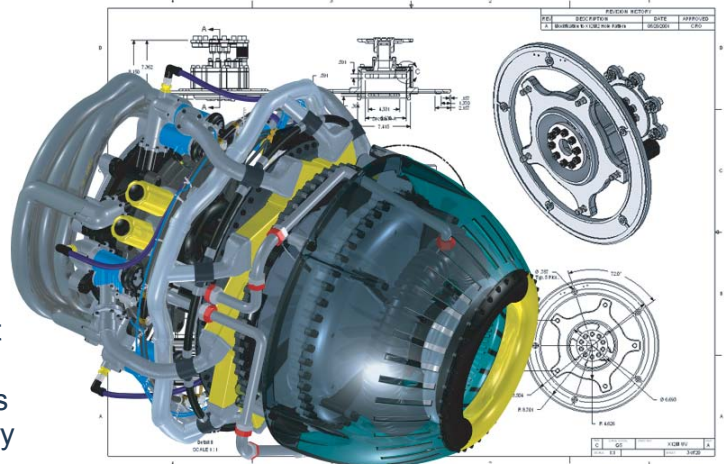
Rendering - The integration of powerful, high-end visualization technologies into the core of the software makes the entire design process faster, more productive, and more understandable. Fully integrated, real-time, texture, bump, and decal mapping to represent design details are available to save time and valuable data space.

Animation - Through the use of SmartMotions, IronCAD parts and assemblies can be given realistic motion paths allowing the visualization of dynamic designs. Through a simple to use graphical key frame interface motion elements can be added, modified and timed within the context of the design scene. This fully integrated environment allows design change to happen in context of a part in motion. Animations can be exported in GIF or AVI for downstream team collaboration or presentations.

Production Drawing Automation:

Fully associative - IronCAD supports bi-directional associativity between the 3D model and its 2D drawing. Changes made in the scene can be automatically updated in the drawing and changes made in the drawing can be updated back in the 3D model. A notification mechanism is used to indicate to the user a situation when the 3D model and its drawing are out of sync.

Detail drawing generation - Associative 2D multi-sheet layout drawings can be created automatically from parts and assemblies. Just some of the view generation types include orthogonal, isometric, detail, section and auxiliary views. Full annotation including symbols catalogs, SmartDimensions™, GD&T, text notes, centerlines, Bill of Materials and reference geometry supporting ANSI, ISO and JIS standards.

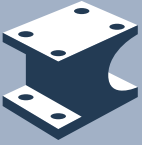


Bi-directional BOM - BOM creation is made simple through the automated extraction of designated part properties into a fully editable table on the drawing. Once created, changes made to the BOM on the drawing can be automatically pushed back to the 3D model, creating a fully bi-directional editing capability which dramatically speeds up the drawing creation process, while ensuring proper synchronization.

Cost Effectiveness:

IronCAD is the most competitive priced product in its class. It comes standard with all the 3D modeling you will ever need, photo realistic rendering, animation and a full set of data translators. It is the best value to be found in the market today.

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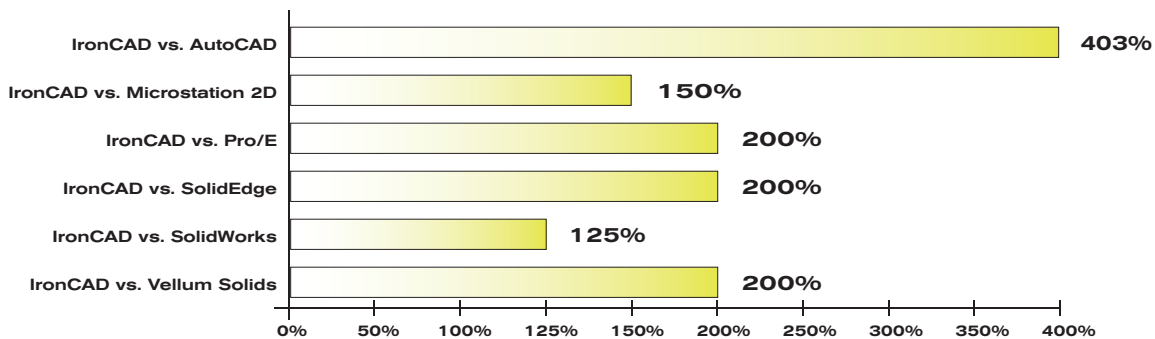
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IronCAD Customer Experience:

Thousands of IronCAD customers from around the world have experienced the IronCAD Difference, defining it by saying such things as:

- IronCAD is the Fastest and Easiest Way to 3D.
- IronCAD is the best Creative Product Design system in the market today.
- IronCAD delivers the highest 3D design productivity available in the market today.
- IronCAD is the Easiest to use 3D design system in the market today.
- IronCAD's Creative Product Design approach gave us significant productivity gains over our previous CAD system. (See table below).

IronCAD % Productivity Increase



1 Source: IronCAD 2003 Customer Productivity Survey for mechanical machinery market

Customer Quotes:

"Innovation is the echoing theme of our company, so it only made sense to acquire the tools that will allow our engineers to perform their jobs with speed and efficiency, while at the same time not restraining their creativity. IronCAD made this happen."

- Howard McCall - Multiple Discipline Technology Group

"IronCAD has made the design process much more efficient and effective allowing our designers more flexibility and freedom in their work than ever before. We could never be this efficient in Pro/E or other constraint based systems."

- Anders Uddman - Ankarsrum Motors AB

Are you ready to take the IronCAD challenge?

The only way to fully appreciate the IronCAD Difference is to take IronCAD for a test drive or ask an IronCAD authorized reseller to show you the IronCAD Difference one on one. Its time you found out for yourself why IronCAD is 'The Fastest and Easiest Way to 3D'.

THE FASTEST AND EASIEST WAY TO 3D