

RB Royal Innovations

Manufacturing Confidence



Your Company's Future in Three Dimensions

By: Brian Witt

Is your company considering a transition to three-dimensional CAD (3D CAD)? In an effort to exceed our customers' expectations and continually improve, RB Royal made the switch to 3D CAD less than a year ago. We have found that this transition was not a quick or easy change, but provided many benefits. If your company is considering switching over, it is important that you first consider the potential benefits and other factors in making this transition.

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Potential Benefits

The amount of total time saved with 3D outweighs any extra time needed to create the 3D model. Time is saved with computer-generated view projections (which have to be done either manually or semi-manually in 2D). Design detail changes are also faster due to integration between the 3D model and 2D print. The 2D print is updated automatically when the 3D model is changed. Design interferences and other flaws can be detected much easier in 3D, saving time in the design cycle. Most software programs have built-in tools to check for these flaws.

Tooling and fixtures can be designed using 3D models prior to print completion. This could save weeks of lead-time by not having to wait until the print is done. Also, unless the part is very simple or is designed from an engineering standard, it is very difficult to design tooling and fixtures from a 2D print. Working with samples to build a fixture is problematic due to tolerance stack-ups. Unlike a 3D model, physical samples are not nominal.

The ability to add an isometric 3D projection adds a better visualization of the part. This extra information can improve print interpretation by people on the manufacturing floor. The 3D projection provides perspective and depth to the art and visually locates part features.

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Office Cells

By: Vickie Huck

Often times companies have so many improvement plans and quality initiatives that everybody is responsible to everybody, but yet nobody has ownership of anything. Meeting upon meeting, upon meeting.....

Sound familiar? It did to us. That's why RB Royal continues our LEAN journey by bringing it into the office.

Our LEAN initiative in manufacturing has provided us with a competitive advantage. Waste on the manufacturing floor is much more obvious and measurable than office waste. Office waste is the cost of lost business, lost opportunities, requirements for an extra signature, delayed responses, poorly run meetings or project teams wandering aimlessly without direction.

RB Royal has recently restructured its office and support functions into two LEAN office cells. Each cell is comprised of two sales representatives, a buyer/planner, and three cell engineers in the areas of quality, manufacturing and design. The cells are organized primarily by market, very similar to how customer accounts were organized in the past, therefore providing few changes to customers in their daily contacts.

Office, support and administrative functions have not kept up with manufacturing in contributing to the bottom line. Our Lean Office Cells will contribute to the bottom line through improved communication, ownership, a unified focus on customer needs and requirements and small continuous improvements. Key processes must be fast, accurate, customer focused, value added, aligned with organizational goals and results driven. Hands-on employees, who have an extensive knowledge of the processes they perform everyday, are the key to our success.

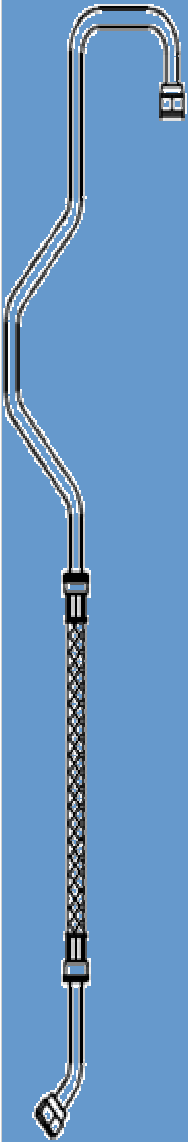
Several of the customers I've recently visited applaud RB Royal in being their first supplier to bring LEAN into the office. Our reason for doing this is not to be first. It is to achieve our sales growth plans with our current staffing level, to provide outstanding quality, delivery, and customer service, and most of all, to contribute to the bottom line.

Manufacturing Confidence

As you may have noticed, part of the title of this newsletter is Manufacturing Confidence. As of April of this year, Manufacturing Confidence became RB Royal's new tag line. We felt this was a necessary change because we offer our customers more than just the quality, service, price and delivery they demand. At RB Royal, we offer the technical resources and performance it takes to earn our customers' complete confidence.

We have evidence of this in our Product Development Center (PDC) that redefines the notion of design and engineering assistance. We have the ability to turn operational excellence into exceptional responsiveness in the face of changing customer needs. Our innovative Value Analysis Process details how we'll deliver distinct, quantifiable value.

We are dedicated to providing greater overall value, standard-setting product design and performance, and ultimately, more satisfied customers of our customers. At RB Royal, we may deliver components, but we manufacture confidence.



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Three-dimensional CAD can enhance concurrent engineering between a supplier and a customer. Multiple changes can be communicated and made before prints are created. Fit-ups can be done in a virtual environment before the first physical part is made, saving cost in tooling modifications and scrapped parts.

Other Factors to Consider

You should plan carefully for the amount of expense, time and effort required to make the change. How many licenses are required? What training is required? Is the new software compatible with the current 2D software? How will the other departments within your company and your customers view the 3D-generated documents? Is your existing computer hardware adequate for the new software?

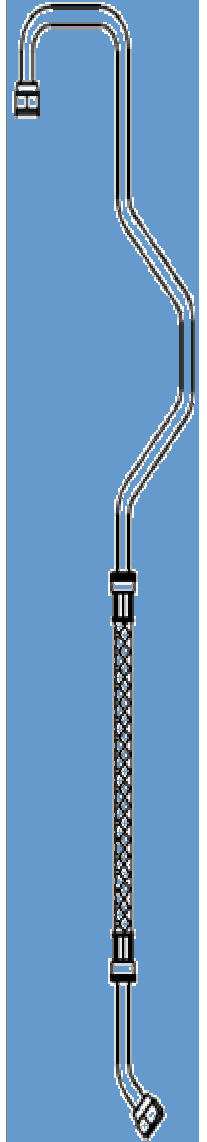
The number of required licenses depends on how many engineers and designers a company has on staff. Once engineers discover the power of 3D CAD as a development tool, the use of the program will increase dramatically. You should consider this when planning for future needs.

Getting engineers functionally trained on new 3D software may require minimal training because most 3D CAD systems have become similar in functionality. Even experience in other systems could minimize the amount of necessary training. Engineers will come to understand that the overall concept of 3D modeling is more important than understanding the software commands when getting trained. Also, online help has improved dramatically from only a few years ago.

It's important to consider the compatibility of existing 2D with any new software. A goal of your engineering department should be to minimize any conversion of files in order to view them in the new 3D package. Also, other staff members without access to the CAD software will need a way to view documents online. Viewer software functionality and cost are important things to plan for as well.

Hardware can be a major issue in transition to 3D CAD. Typically, RAM and graphic card upgrades are needed unless your company has gone through a recent PC upgrade. Three-dimensional models contain large amounts of information. In order to manipulate and display 3D images, there is more graphical power needed than what some older standard business PCs may have.

Three-dimensional CAD can be a huge investment for your company, not only in dollars, but also in time and in effort. However, if your company is similar to RB Royal, it will understand that in the long run, this transition can result in a large return on investment for the company.



Lead Article Biography:

Brian Witt is the manager of advanced engineering for RB Royal. He received his Bachelor of Science in Mechanical Engineering from Michigan Technological University and has 11 years of product engineering experience in automotive, commercial and industrial markets. Brian can be contacted at bwitt@rbroyal.com.

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Visit RB Royal at AmCon

RB Royal will be exhibiting at the 18th Annual Minneapolis AmCon Show on October 25-27, 2005.

AmCon, the American Contract Manufacturers Show, brings suppliers of custom metal, plastic, rubber and electronic parts together with qualified OEM buyers through regional shows. The show provides sources for: forming, fabricating, shaping, finishing, assembly and electronic manufacturing services

This show will be held at the Minneapolis Convention Center.

Come visit RB Royal at booth #317!