Kingsbury's Paperless Manufacturing Project:
"It's not all about saving trees."

Company Background

kingsbury Inc., originally founded in 1912 by Dr. Albert Kingsbury, has been the leader in the design and manufacture of tilt-pad fluid film thrust and journal bearings for all types of rotating machinery. From their headquarters in Philadelphia, Pennsylvania and throughout their international presence in Europe, Asia, South America, and Australia, Kingsbury is proud of their high-performance bearings and bearing systems, which have been installed worldwide. In addition to the original core line of flooded hydrodynamic bearings, Kingsbury offers directed lubrication, fixed profile, rolling element, and specialty bearings, as well as complete bearing systems. All are designed to enhance equipment performance in power generation, oil and gas, hydroelectric, marine, motor and pump, process machinery, rock crushing, mining, steel making, defense, and many other applications.

As a long-time Autodesk solutions house, their design tools are primarily Autodesk Product Design Suite applications. Inventor is used for 3D design, with iLogic functionally being used where beneficial to automate design and product configuration tasks. AutoCAD is used for 2D documentation tasks. For years, Kingsbury utilized an engineering-centric data management solution, primarily for engineers, designers and drafters and Autodesk Buzzsaw, which the company implemented for use in their procurement process.

Website:

www.kingsbury.com

Headquarters:

Philadelphia, PA

Industry:

Global leader in the design and manufacture of tilt-pad fluid film thrust and journal bearings.

Products Used:

Autodesk Product Design Suite

Synergis Services Used:

Consulting & Helpdesk Support

Helping you stay ahead.

⍰ The Business Challenge

Kingsbury's manufacturing operations relied heavily on paper job tickets and packets that included drawings, 3D models, and pictures of the job to be completed. The manual paper packet was time consuming to create and cumbersome to manage on the shop floor. The shop floor has thousands of jobs running at one time, therefore they found that the coordination and logistics of the paper job packets was an impediment to increasing productivity.

According to Kingsbury's Information Technology Manager, Harry Geiger, "We have a full time employee responsible to create and assemble a paper packet for each job – which generally takes about two hours to compile per job. Not only was the packet assembly time consuming, but if any changes were made to the job, we had to recreate the paper packet, print it out, and distribute it to the shop floor—wasting time by delaying the job."

⌕ The Solution

Kingsbury needed a solution to make it easier for machine operators and shop personnel to manage the jobs and information on the shop floor. The goal was to implement easy to use software to convert the paper-driven shop floor into a paperless one, which in turn would save money and promote manufacturing efficiencies.

Synergis Engineering Design Solutions, Kingsbury's long-time Autodesk solutions partner and business process consultant, was engaged to understand their project and processes to determine how to address their challenges and meet business goals.

After a formal assessment of their project, Synergis introduced Kingsbury to Autodesk Vault, thus beginning what Kingsbury Senior Vice President Jerry Powers describes as the "Paperless Manufacturing Project". In December 2012, 100 seats of Vault were implemented in their Oshkosh, Wisconsin location. Kingsbury has since implemented Autodesk Vault in their Hatboro, Pennsylvania location, and will soon roll it out in Philadelphia, followed by their California and Germany facilities.

Rather than using paper packets, Vault allows the jobs to be stored in the system in what is referred to as a "job folder." These folders contain all information necessary to complete the job, and include links to any file associated with the job. "It is becoming apparent that the unique, one-point sourcing of pertinent documents and information, which is from the common computer network, has expedited the manufacturing effort while simultaneously declining the potential for the distribution of materials with untimely revision statuses or other error conditions," said Powers.

"Moreover, the simple fact that all information is now viewed via large-screen monitors precludes the possibility of paperwork becoming soiled, illegible, or just (routinely) misplaced," said Powers. Shop personnel are able to search jobs and files using dual, large screen monitors placed around the shop or from other mobile devices (e.g. ePads) providing them accurate and timely job information."

✓ The Result

Out of the box, Autodesk Vault Collaboration was able to address the majority of Kingsbury's requirements; however when a user selected a file in Vault, the latest version of the document was displayed in the Preview tab of the Details Panel, regardless of its lifecycle state (released, in review, work in progress, etc.). This was not acceptable because the shop floor needed to manufacture to the latest released version. Synergis was engaged to develop a custom add-in for Autodesk Vault that displayed the latest released version of the selected document in a separate tab in the details pane. This way, users would have access to both the current version and the last released version.

Additionally, Kingsbury required Synergis' support to add a new replicated workgroup to their Autodesk Vault environment so that multiple locations would be able to access all design data which was primarily generated in their Philadelphia headquarters. This entailed the configuration, implementation and testing of their Vault Publishing Server, Vault Subscriber Server and SQL Server replication services. Lastly, Synergis was engaged to teach Kingsbury personnel how to use the system in their environment.

"This project wasn't about saving trees, although it will. We estimate 20 hours are saved each week with this process because new job packets on the shop floor are no longer needed when there's a change—the changes are instantaneous in Vault. Not only do we save time with changes, we also save when creating a new job folder in Vault which takes a mere 15 minutes to compile," said Geiger.

According to Powers, "The consequences of the Paperless Manufacturing Project continue to become manifest in the increasing efficacy of production-floor information command and control. This represents a somewhat un-quantifiable, but absolutely real savings in both time and direct costs."

In the future Kingsbury plans to upgrade to Vault Professional, and will be implementing the Vault platform in Germany where they are expanding manufacturing operations. Additionally, Kingsbury's Purchasing Department uses Autodesk Buzzsaw in their procurement process to communicate electronically with vendors. Moving forward, the company hopes to get more vendors to use Buzzsaw, which integrates with Vault, to take further advantage of Paperless Manufacturing Project efficacies.

How can Synergis help you stay ahead?

We consider every one of our customers a long-term partner, and our top priority is to find solutions that help your business move forward and stay ahead of the competition. That solution could mean helping you manage licenses and subscriptions, introducing a new product or providing the latest training.   Synergis Engineering Design Solutions is an Autodesk Platinum Partner, Autodesk Consulting Specialized Partner and Autodesk Authorized Training Center (ATC).

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