AeroSpec, Inc. Uses Adept Document Management & Workflow For Lean Manufacturing

Let's say you invented the world’s greatest pacemaker. You want to get your design to the hospitals first to get the doctors to endorse it before your competitors do. You also have to prove you can build them and supply them to doctors faster than anybody else. You've got to get there first because you're going to get a whole bunch of competitors’ products right behind it. “That’s where we come in. We build the equipment to build the pacemaker,” said Steve Marinella, President, AeroSpec, Inc. “And we have to do it very quickly. What other designers do in days, we complete in hours. From the time the product is designed it's a race to see how fast that equipment can be built so we can mass produce these pacemakers.”

AeroSpec, Inc. (www.aerospecinc.com) makes machines for an array of industries, including medical devices, automotive, semi-conductor, consumer products, and aerospace. The biggest sector is medical devices that doctors and surgeons use, such as catheters, stents, and staplers.

Engineering Data Management is Critical for Rapid Design Process
AeroSpec relies on innovative tools and techniques that allow them to stay competitive. Of their 42 employees, 10 are engineers whose primary 3D design tool is SolidWorks. To help them manage their tens of thousands of drawings quickly and accurately, they count on Adept document management & workflow software. "We need an automated system not only to save manpower, but also to speed up production and reduce errors,” said Marinella.

AeroSpec, Inc. has used document management for 12 years, during which time they developed a deep appreciation for its benefits. Two years ago, they were forced to replace their existing data management software because it failed to sufficiently support SolidWorks. They went out to the marketplace armed with years of experience, making them demanding and savvy researchers.

Piloting a Solution Uncovers Pros and Cons
After the first round of research into solutions that supported SolidWorks, AeroSpec identified a top contender and purchased several pilot seats to put through its paces. After an 18-month evaluation period, they became convinced this system would not be suitable for two key reasons. First, one of their main concerns was the user interface. Since the user interface was built on Windows Explorer, their first impression was that it would be easy. In actual practice, engineers were often unsure if they were inside Windows or inside the document management system. A second problem was that once, when the system crashed, the IT department was unable to access their data because the system encrypts files. Because of this experience, the IT department was reluctant to move forward with any system that encrypt files.

Top Reasons for Switching to Adept
Determined to find the best system, Erich Becker, AeroSpec’s IT director, went to Synergis Software’s headquarters for a five day Administrator Training class on Adept. When he returned to the office, he set up a pilot, and within weeks decided Adept was the right product to meet their needs.

There were a number of factors that contributed to their decision to implement Adept and replace the system they first piloted. First, Adept doesn’t encrypt documents or change file names. In fact, the IT staff can locate documents right on the file server, making it easier to find the files directly, and to back them up. Another reason they chose Adept was because its intuitive user interface reduced the amount of learning time users require, so with Adept they became more productive faster.

Additionally, Adept’s built-in visualization tool offers a number of mission-critical advantages that allows AeroSpec staff to access documents and collaborate.
• Non-CAD users are empowered to obtain prints, so engineers no longer spend valuable time doing clerical work.
• The shop floor people access read-only documents, so there’s no risk of inadvertently making changes.
• Users don’t need a license of expensive CAD software to see the document.

Beyond Engineering, Adept Contributes through the Organization
Documents are a key asset of AeroSpec’s business, and managing those documents is important across the entire enterprise. “We have found almost every part of the organization can benefit from having automated access to the engineering documents and data,” said Erich Becker. “While the engineering documents are generated by engineering, there are many departments who need to access them. For example, the Bill of
Materials becomes important for the purchasing department. And, of course, the shop floor is a major consumer of the engineering documents.”

Becker, who was responsible for implementing the Adept system, is particularly fond of the benefits Adept offers the IT department. “Adept stores all the information about the files in a database, and when users search the database, the network only delivers the data that is requested. The file itself isn’t transferred until it is actually needed. This reduces network traffic, and thus saves money.”

Adept’s Workflow and Integration with SolidWorks Further Convinces AeroSpec
AeroSpec, Inc. has become so attuned to the benefits of data management software, they often recognize cost savings across multiple departments that result from a single Adept feature. Take, for example, Adept’s support for SolidWorks configurations. Before Adept, when engineers wanted to create a few assemblies that differed by only one part, they created copies of the entire assembly. Now the engineers use SolidWorks configurations, allowing them to accomplish the same modeling task in just one assembly. Adept tracks which of the configurations is used and where. It saves time for the engineers, and there are fewer files to store, so it reduces the load on the IT infrastructure.

Adept’s workflow also helps in multiple departments. The central purpose of workflow is to streamline the movement of documents through the design process. In addition, workers on the shop floor found another benefit. They watch Adept’s workflow report to see what’s coming down the pipeline. That provides an early warning system that lets them adjust their schedule to the work before it reaches them.

Document Management Convinces Customers AeroSpec is Serious About Process
As Marinella continues to tick off the list of benefits for document management, it becomes apparent he is a fan. As Marinella puts it, “We’re data management people. No one had any question that we needed this tool. In fact, a time is coming when a system like this will be a mandatory part of doing business in our industry.”

“Our customers have to be 100% sure that we can build a machine they can depend on, and that is going to launch them into their production on a certain date. They ask us, “How do you guys plan to get this done?” We need to communicate to them how deeply committed we are to the excellence of our processes.”

“That’s why we’re so interested in document management. It adds integrity that’s so important when you’re operating quickly. In our environment it’s really critical to have flawless control over our documents. So we put up a projector and show our customers the nuts and bolts of how we use Adept to control documents. There is always a hushed tone in a meeting when I present that. Customers really are impressed because they recognize how critical it is to have very high level of integrity in your document system. It’s not just making sure the documents are as-built, but it’s in being able to manage the entire workflow process, from the very first concepts through the meat and potatoes detailed design, publication and production out to the shop floor, all the way through, and then when they get the final documentation back they know that it’s something that’s really clean.”

Daily Reports Help AeroSpec Implement Lean Manufacturing Design Process
To get his point across about how Adept helps AeroSpec manage their design process, Marinella offered an analogy. “In Lean Manufacturing there’s software that measures Overall Equipment Effectiveness (OEE). This provides a consistent way to measure the manufacturing process and spot problems. I see Adept as the OEE for the design process. I can look at the daily reports from Adept, and I can get an idea of where we can improve the design process. It’s really important to know if we have a bottleneck in our design process that’s going to defeat our fast track to get things through our pipeline, quickly and efficiently. Adept helps me find those areas and improve them. Adept does a remarkably effective job helping us analyze the pipeline, especially with the 3D SolidWorks documents that we’re working with.”

A Developer Direct Business Relationship Makes Good Business Sense
During the period AeroSpec, Inc. was investigating Adept, they were also gaining experience with the vendor, Synergis Software. As Erich said, “I’ve been to Synergis Software’s headquarters. I met the people. This is the kind of business relationship we were looking for in this kind of solution because document management software is directly related to the money-making aspect of our business, our drawings and our designs. We want to be sure we can get support right away when we need it. The Synergis Software team has responded to us far above the call of duty. Every member of the Synergis Software team has been passionate about making AeroSpec successful.”