


Push for Paperless



The document control of today is an integrated system accessible anywhere, anytime.

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Document control/management spending is ranked as the third most planned software purchase for 2006, estimated at \$46.6 million, according to *Quality Magazine's* capital spending survey (December 2005, p. 52). As more manufacturers look to increase efficiency in creating and authoring documents, they turn to a document control solution as a part of a larger, complete quality process program.

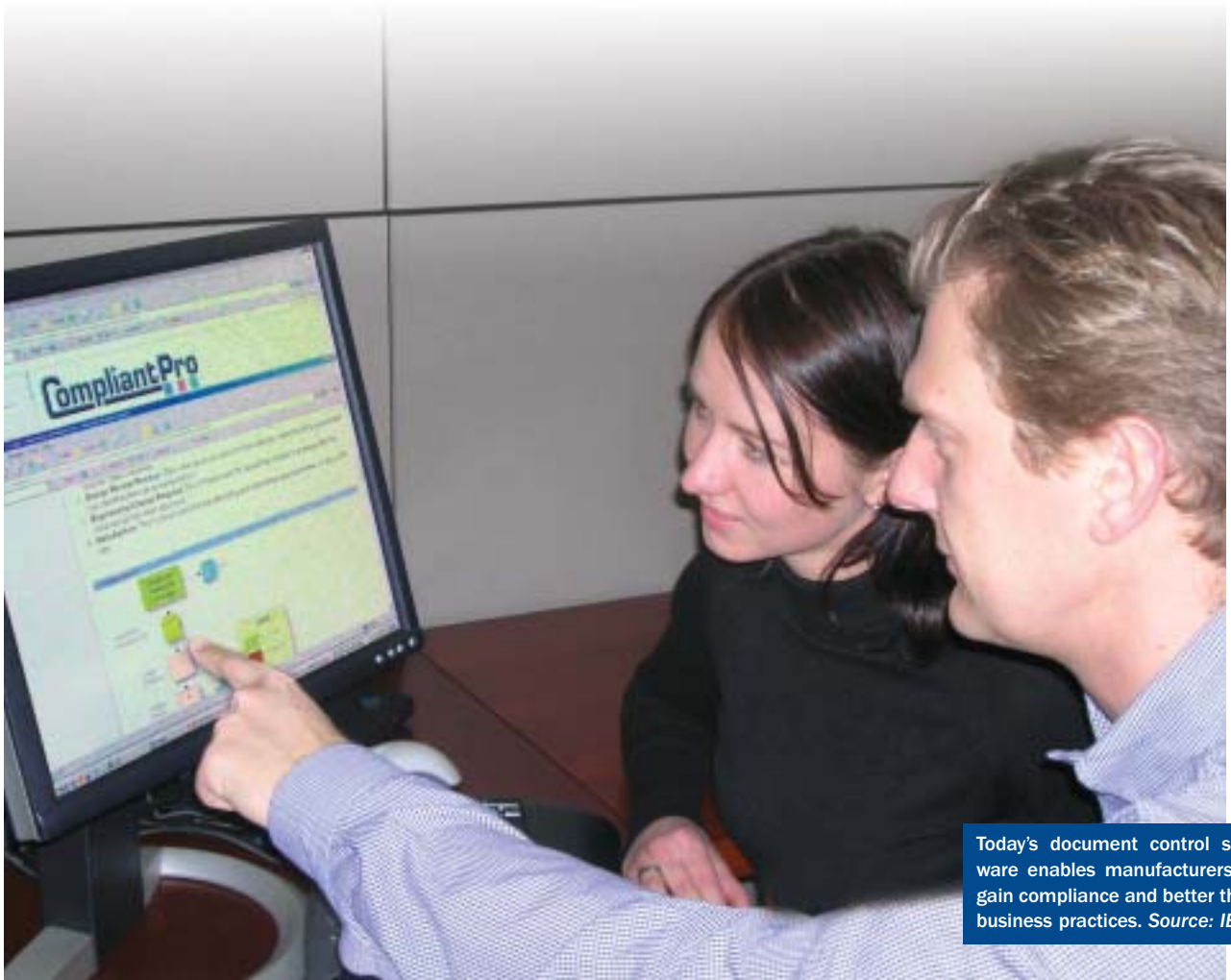
At its simplest form, document control is a system for distributing and controlling documents. For a manufacturer, such documents can include procedures, work instructions or manuals, control plans, and standards and specifications. Companies can invest in a manual document control system, such as an administrator who files and handles all the company's documentation and keeps track of distribution records, or invest in an automated document control system such as a software, client-server or Web-based initiative.

While document control systems have been around for several years, features and implementations of such systems as a role in the quality management process continue to evolve.

One major benefit of an automated document control system is saving on paper costs. Managing paper documents is inefficient, not to mention expensive. With a manual system, if an employee makes a change to a document and the wrong version of the document gets sent to suppliers, the mistake can be costly.

QUALITY TECH TIPS

- ▶ An automated system can reduce the chance of mistakes and inefficiency associated with manual processes.
- ▶ With a Web-based system, manufacturers can access documents anywhere with a standard Web browser.
- ▶ Some document control systems can integrate with other quality processes in human resources, finance or marketing.
- ▶ Improve ROI and save money on resources such as paper, with the right document control system.



Today's document control software enables manufacturers to gain compliance and better their business practices. Source: IBS

According to Rick Ringlespaugh, vice president sales and marketing at Powerway Inc. (Indianapolis), still today, companies suffer from the consequences of circulating the wrong version of a document due to an ineffective manual document control system. “That’s probably a leading business risk that companies have—working with improper documentation,” Ringlespaugh says. “For manufacturers with a lot of engineering changes, the need to control that documentation is quite high and so is the penalty for not doing that.” Such mistakes could mean late launch of a product, higher tooling costs or unusable inventory.

A sound document control system can help companies meet industry standards such as ISO, as well as ease the auditing process. Yet, says Marti Turocy, president of Quality Systems Integrators (QSI, Eagle, PA), many manufacturing companies still do not have a sufficient document control system in place. They may have a Web site or Word archive where employees can

store documents, Turocy says, “but the system is not being managed.”

A large variation among document control systems exists in the industry. Some document control suppliers offer separate document management or document control systems—as simple as storing and indexing documents, or as complex as incorporating features such as security, audit trails and digital signatures.

Small manufacturers’ needs differ from those of larger manufacturers. For example, while a small company with one facility may need one centralized system that houses its documents, a larger, national, multifacility manufacturer could benefit from a Web-based system where documents can be shared company-wide through a standard Web browser.

In addition, according to Dan Riordan, vice president of product management at IBS (Lexington, MA), not only is company interest in document control systems rising, many companies are pushing for one system to handle all

its documents, instead of multiple systems for human resources, finance and engineering, for example. “Not only can they use one system to meet their needs, but it’s really becoming the desirable thing to do,” Riordan says.

CHANGES IN DOCUMENT CONTROL

One major change, says Bill Best, president of Proquis Inc. (Des Plaines, IL), is that companies are beginning to realize that there is a difference between document management and document control. While the two terms sometimes are used interchangeably, Best says that document management is little more than storing and recalling documents.

“Document control implies a need to keep track of documents and their changes, as well as restrict the ability to do that activity. Document control implies that you have a true record of a document’s history, rather than just going and storing it,” he explains. More companies are deciding they need some control, rather than just storage of documents. Legislation both in the U.S.

and abroad will continue to force people to adopt document control systems, in the future, if they haven't already, according to Best.

WHAT IS AVAILABLE?

Once a company determines the need for a document control system, they can turn to client-server-based systems or Web-based systems for their needs. Some manufacturers, Ringlespaugh says, use a hybrid of the two.

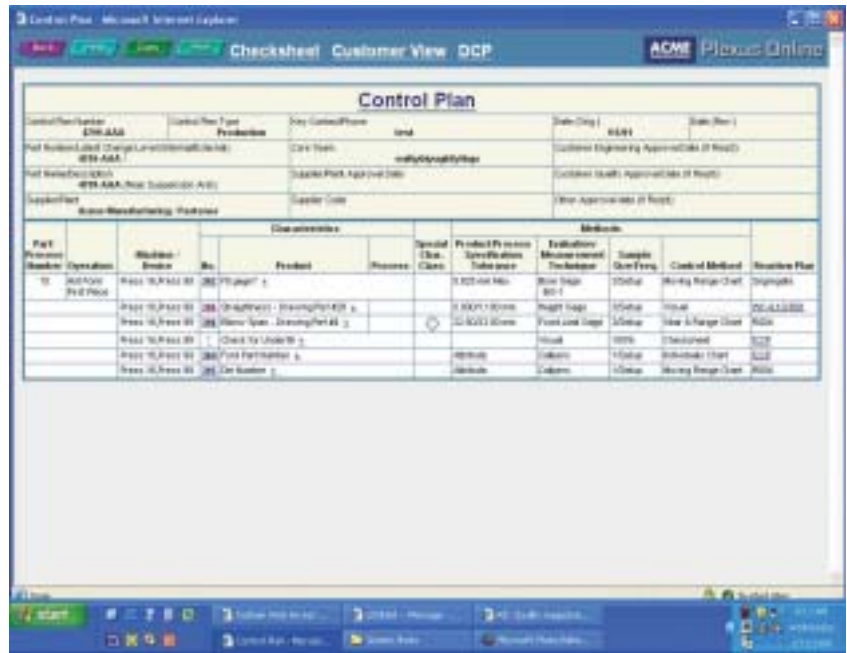
Document control systems can be targeted to a specific standard for example, ISO, TS or another industry-specific standard. Companies can tailor a document control package to handle a number of different things from the employee phone list to engineering documents and control plans.

Another development in the arena is different classification options and more scalability. "[One] thing we are seeing as a requirement is this buzz word, *taxonomy*," Riordan says. In the past, he says, document control meant simple classifications such as by department. "Now with so many different [needs] you have to give people the ability to create as diverse or simple taxonomy as they need: by business unit, division, plant, function and product line," Riordan says.

Depending on the security needs of a company, document control systems can offer read-restrictions—allowing only specific people to view certain documents—or only allow employees with qualifying characteristics such as business division, title or name varying levels of access to documents.

Some vendors offer document management in the form of a service, called software as a service (SaaS) or on-demand model, according to Ringlespaugh. This works much like a utility, where manufacturers pay a monthly fee and often only need a standard Web browser to automate their business practices such as document control. Such a system requires no extra hardware, networks or software licensing on the part of the subscribing company.

Mark Symonds, president of Plexus Systems (Auburn Hills, MI), believes the future of document control is Web-based. "The trend is toward Web-based collaboration across the global supply chain. My vision of document control is really data management. Currently,



By clicking on one of the sections from the previous screen of this document control software program, the operator can view and maintain the inspections to be performed in this section of the plan. At the top are links to view as a dynamic control plan, to see the customer view vs. internal view, and to see the check sheets that are automatically generated. Source: Plexus Systems

companies exchange discrete documents in Word or Excel. Increasingly, documents will be data that can be printed out in reports or exchanged, reviewed and approved via XML," Symonds says.

"The concept of the document is changing—more *content* management than document management," Turocy says. The scalability needs of small vs. large manufacturing organizations may differ, but as Turocy believes, the future of document control is in better technology. Live documents, instead of merely physical documents—though the technology is available today—will take hold in the future, she says. Such technology could allow an employee to click on a procedure and watch a video, or hear the procedure read aloud.

Many systems link related documents together so that an employee can search all documents related to a particular characteristic. With a database management system such as one offered by Plexus Systems, Symonds says, documents are linked logically, allowing automated changes across all related documents. For example, Symonds explains, if you change the diameter of a hole in

your part by a millimeter—based on your approvals, that update automatically is reflected in all documents linked to that, such as the dynamic control plan and the quality check sheet, which is on the shop floor for operators.

Adds Best, "Automatic archiving of redundant versions of documents together with their digital signatures, changes, comments and everything that goes along with that," is a key feature of a document control system that some suppliers offer today.

In addition, as manufacturing companies expand, so too will the demand for features such as automated, true multilingual capabilities, Riordan says. "By true multilingual capabilities, if I spoke English and you spoke Spanish, I would see your documents in English while you would see them in Spanish," he explains.

While there are many features and capabilities available today for document control systems, most experts agree that it is not document control business processes that have changed significantly in the past five years. "Document control was well established with ISO," Ringlespaugh says. "The big thing we have seen change is the way people approach document control."

At first, Ringlespaugh says, document control was compliance-driven with companies implementing the system because a customer told them to. “Today we find more companies implementing document control systems because of the benefits they derive beyond compliance,” he says.

ISO 9000 and other such industry standards, have done the job of defining document control, but the disciplines necessary to implement a successful practice is up to the individual companies, Ringlespaugh says.

QUESTIONS TO ASK

Companies should accept that they must initially spend money to implement a document control system—and hopefully end up with a better ROI down the road. “There has been a decade of practice to avoid spending on automation and putting resources into manual controls. But at the same time the value of automation is becoming clear to more companies,” Ringlespaugh says.

Once a manufacturer decides to implement a document control system, the

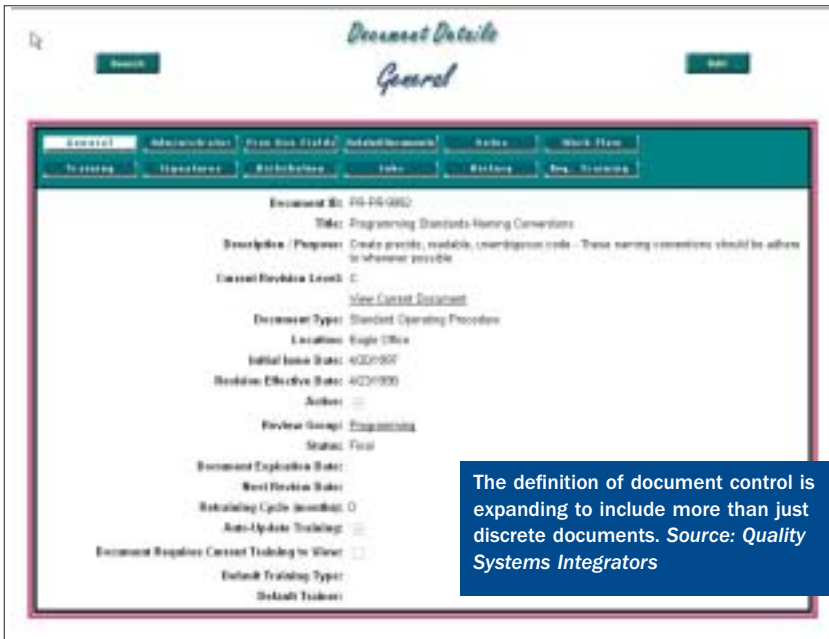
choices may be daunting. Variation among document control suppliers and products means that manufacturers need to approach such a decision with a list of what they want to accomplish out of such a system—and ask all the right questions.

Suppliers of document control and management systems offer up the following questions for manufacturers to ask:

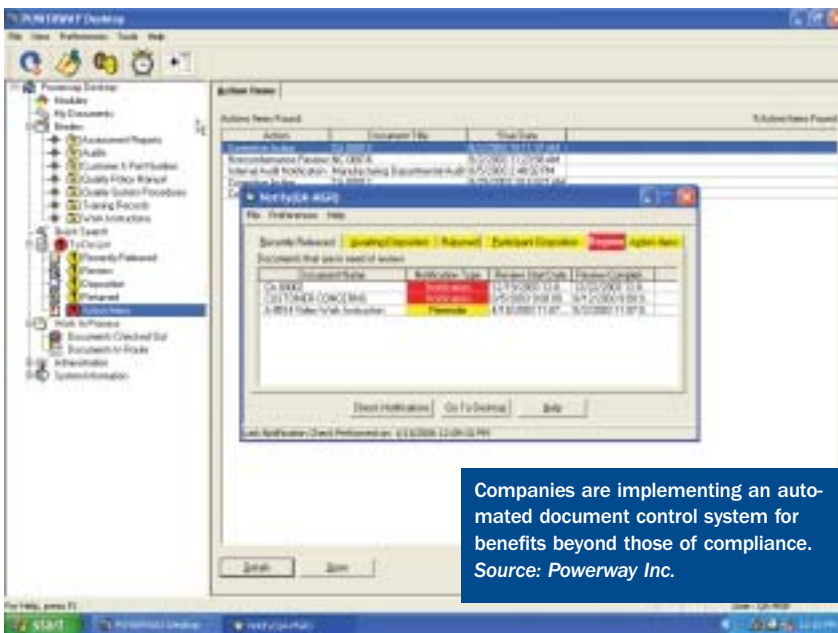
- Ask yourself, what are you really trying to accomplish with your document control system? Is it compliance? Expandability?
- What kinds of integration does the document control system offer? Can it integrate with gage control, SPC, corrective action or auditing software?
- What kind of training, support and upgrades does the supplier offer?
- What resources does your company need to deploy a specific document control system? Training, support, servers, hardware?
- How easy is the system to use?
- What is the process for searching across all documents?
- Is it accessible from anywhere?

Additional tips:

- Use a scorecard to compare traditional software to other on-demand systems. Ask the suppliers if they can provide the information.
- Make sure the system incorporates your industry-specific standards.
- Ask the supplier to see a demonstration of the product. **Q**



The definition of document control is expanding to include more than just discrete documents. Source: Quality Systems Integrators



Companies are implementing an automated document control system for benefits beyond those of compliance. Source: Powerway Inc.

For more information on the companies mentioned in this article, visit their Web sites:

- IBS, www.ibs-us.com;
- Plexus Systems, www.plex.com;
- Powerway Inc., www.powerwayinc.com;
- Proquis Inc., www.proquis.com/qm; and
- Quality Systems Integrators, www.qsi-inc.com.

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