

Technical management solutions prove valuable

Lightweight TDM solutions must be with the best search engines in the market to retrieve quick and accurate information...



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Whether a small or large engineer-to-order manufacturer, there is often a core business surrounding reverse-engineering CAD (computer aided design) and other document formats to produce visualisation solutions. Technology solutions are able to turn general purpose document management system into a full-fledged technical document management (TDM) system.

The scope of these technologies reveals that even a “lightweight” document management solution, limited to indexing and retrieval, results in cost-effective lean process improvements. Several TDM technologies are designed for managing CAD and Engineering Drawings along with associated product documents such as Office Documents, e-mails, PDFs, and photographs. Many technologies provide unique architectures that store all electronic files in a native format; allowing engineers to view drawings without the CAD

application installed as well as sharing and access of documents from anywhere in the world via Internet Explorer.

Beyond a full range of document management functionality to archives (indexes), the leanest TDM solutions must be equipped with the best search engines in the market, allowing engineers the ability to search for any word or combination of words in order to quickly and accurately retrieve the information being sought. During the retrieval process, all versions of a document should be available for viewing and opened.

Eliminating waste: The lean document management operation

More than thirteen hours per week creating documents and nearly seven hours per week organising documents is common among small and midsize ETO manufacturers; an additional four hours per week are spent managing document routing and another ten hours per week

searching for information. All this time searching for documents is waste and counter to the lean initiatives and established efficiency metrics.

According to Ricardo Talbot, Chief Science Officer for Elmo Solutions, “The biggest distinction in effective search tools that create and manage engineering documents is the capability to index, retrieve and display a wide range of CAD and imaging documents from AutoCAD, other Autodesk “flavored” applications, Autodesk Inventor, and SolidWorks.” It is economically viable to deploy CAD and PLM document retrieval tools because according to Talbot, “Our original intent was to develop and market a full-fledged TDM (Technical Document Management) system with sophisticated document retrieval and viewing features, revision control, approval control, workflow, really the whole enchilada. However, when we surveyed our potential customers, we discovered that 90 per cent of them would be perfectly happy with a “lightweight” TDM solution that would really focus on retrieval and viewing of engineering documents, as long as it was easy to use.”

Some middle of the road TDM firms achieve much lower total cost of ownership than the common EDM (engineering document management) programs. These economies of scale are often achieved using the follow methods:

■ **Concurrent Licensing** – A company typically needs one license for every 4-5 users that will be accessing the system. If a competitor is at the same price per license, but only offers named seat licensing, the cost is already 4-5 times higher on the initial purchase.

■ **Lower Infrastructure Requirements** – Include a built-in web server and only one machine is required to share documents over the Internet. No sever software is required. Other systems require 2-3 servers to perform the same function and expensive server software. This is accomplished with no degradation in performance.

■ **Customisation** – TDM is customizable without changing the software code. As a result, an administrator can change security levels, alter how and when a revision number is updated, modify a screen template, change the sequence of drawing numbers, and a lot more without having to pay thousands of dollars for code changes.

■ **Administrator** – Some software is so bulky and difficult that it requires a full-time administrator to operate. Many TDM technologies manage independently and

most users only spend a couple of hours a week administering the program.

■ **Legacy Document Imports** – Most companies require importing of their prior electronic drawings into the new system so the users do not have to use two systems at once. By having all documents indexed (every word), it is much easier to find old drawings for duplication.

■ **Additional Licenses** – Licenses may be added in any increment of one or greater. Customers have been frustrated with big companies that only want to make a sale if it is over \$100,000.

\$120 per user will do the work needed

A typical high-end TDM system implementation can cost as much as \$6,000 per user; “lightweight” technology implementation is closer to \$120 per user and addresses the vast majority of criteria for small to mid-size ETO manufacturers.

More than nine out of ten of ETO manufacturers actually described was the good old search engine, Intranet-style, with advanced engineering-specific viewing capabilities. Elmo’s approach to TDM would take the form of a solution that would satisfy the needs of 90 per cent of the market, at an average initial cost that would be typically about fifty times less than full-featured TDM system. According to Talbot, “No matter how “lightweight” and cost-effective the claims, a full-fledged technical document system, is a complementary product category with Elmo Search. Customers will normally use TDM systems to manage various versions and revisions of WIP (work-in-progress), “live” documents; once those documents are issued or published, they become “dead” documents, and it is no longer relevant to manage those documents. Many functions such as revision, approval, and workflow management become irrelevant. The only thing to do with those documents is just indexing, finding and viewing them, in most cases.” **2.0**

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