Adobe FrameMaker 7.0 in Manufacturing

Few industries have information management requirements with the complexity, strict safety and regulatory criteria, and low error tolerance as manufacturing. An enterprise information management solution for manufacturing must have the capabilities and features necessary for solving these business problems. Anything less leads to inefficiencies, workarounds, and wasted resources.

Yet simply meeting these requirements is not enough. The solution must do so at a reasonable cost that assures a positive return on investment. Furthermore, the solution must be easy to install, configure, administer, learn, and use.

FrameMaker 7.0—XML smart, enterprise ready

Adobe® FrameMaker® 7.0 software's capabilities in multichannel publishing, ease of use, and XML authoring and publishing make it the platform of choice for manufacturing organizations —with ongoing needs to structure, reuse, and customize information for a variety of audiences including customers and end users.

The rich feature set, capability for creating and editing valid XML documents, and robust architecture of Adobe FrameMaker 7.0 software makes it a powerful application for authoring and delivering content across the extended enterprise.

For authoring, FrameMaker 7.0 software is the only application that supports editing, formatting, and structure within a single application. The software's integration with Adobe PostScript® and Portable Document Format (PDF) make print production simple and inexpensive. For delivery in online and Web-based formats, FrameMaker publishes to XML, SGML, HTML, and eBook formats.

FrameMaker Server

Whether your content resides in an XML repository, a relational database, a content management system, or multiple systems, FrameMaker Server lets you format the content for print or PDF output in a batch or automated process. FrameMaker Server 7.0 can work in tandem with the desktop version of FrameMaker. Both products are based on the same template-driven workflow, so FrameMaker 7.0 Server templates can be created on any desktop version of FrameMaker 7.0.

Solutions including FrameMaker or FrameMaker Server let you distribute information to those who need it, when they need it, and in the format that they find most useful.

Identifying the business challenges

Manufacturers deal with a tremendous stream of information that is crucial to their profitable operation. The kind of information they receive, manage, and generate includes:

- Documentation accompanying supplier-provided raw materials and components
- Documentation relating to equipment used in the manufacturing process
- Internal research and design documents, supporting product development and protection of intellectual property and patents
- Internal documents supporting ongoing business operations

- Internal operating procedures ensuring efficient and safe working practices that meet regulatory standards
- Marketing materials supporting the sales channel
- Maintenance documentation for the support channel
- Product documentation that is delivered to the customer

The ways in which information is created and managed can significantly impact a manufacturer. Proper documentation for raw materials and components can affect the quality and cost of production, while internal documentation can affect business operations and planning. The accuracy and timeliness of content that relates to safety, regulatory, or customer-facing matters can be critical.

Manufacturing information must be managed and integrated into external product documentation, as well as data-heavy catalogs and other information materials to support the sales channel. Producing these materials is labor intensive, lead times are long, and conventional publishing formats such as paper catalogs are expensive. Changes might take a year or more to appear in an annual paper catalog, and much of the information is often rekeyed from an original paper copy.

To understand the complexities of information management in manufacturing, consider a computer maker. Supplier of components used in building the computer provide information that the computer manufacturer uses. If the component is also directly available to end users, the original information must be repurposed as documentation for installing and using the component. For example, documentation about microchips in the computer is not needed by computer buyers. However, for a computer's CD-ROM drive, whether installed or resold separately, the computer manufacturer must provide end-user documentation.

In summary, the business challenges facing manufacturing include these:

- Managing and integrating information from a diverse array of sources to support the manufacturing process and to provide documentation for manufactured products and components
- Integrating information from suppliers into the process
- Managing documentation about procedures and processes to meet certification requirements
- Managing and printing large amounts of information
- Maintaining information over product lifespans
- Distributing new and updated information quickly

Solution requirements and components

Solution requirements

Almost every product requires some kinds of documentation. Organizations that create, manage, and deliver this kind of technical content face unique business challenges, including improving time-to-market, reducing costs, finding opportunities for content reuse, enhancing quality, and maximizing customer satisfaction. Forward-thinking companies consider technical documentation to be a "manufactured" product that must meet manufacturing schedules. These companies plan and evaluate the life cycle of a product and its documentation in tandem.

Delivery of technical documentation also presents several business problems. Paper manuals are appropriate for many applications, but are expensive to produce and deliver and cannot be updated easily. Customer expectations for access to technical information are growing. Customers often want print (or printable) documentation, online help, and Web access to relevant information. A company's

customer and technical support staffs also typically need written technical materials. The training organization uses the same information in different ways. A major challenge is to author this information efficiently so that it can be delivered to a variety of audiences in different formats.

Manufacturers of big-ticket items have volumes of information to manage. For example, the operation manual for a piece of construction equipment is customized for the buyer, but consists largely of material common to all manuals for that particular model and even for that manufacturer.

Besides text, technical documentation often includes procedures, specifications, and reference materials, one or more tables of contents, lists of figures, tables, equations, running headers and footers with text and page numbers, and usually one or more indices. Technical documents frequently are books, with separate (and possibly separately maintained) chapters or sections, and typically include cross-references within the document and to figures, tables, and other supporting materials.

Numbering of components in technical documents is a major issue. Not only do technical documents have numbered pages, but also they are likely to have numbered tables, numbered figures, numbered equations, and numbered (or procedural) lists. Numbered lists could be nested within other numbered lists, in which case a subnumbering scheme is required.

Technical publishers need to create complex, dense, and often very detailed content that must be highly organized and controlled. Support from a professional authoring tool is crucial, since each component of a technical document can present a substantial challenge to the author. The author should not have to set up the components, verify that they work correctly before the document is published, and inevitably fix them when they break.The challenge in technical publishing is to provide a complete and high-quality set of documentation for a product or service, while meeting a variety of business demands (such as budget and resource constraints) and schedule demands (dictated by product development).

In summary, information management tools in manufacturing must be able to perform these tasks:

- Manage vast amounts of information over the life span of each product
- Support content review cycles, ensure accuracy, and meet regulatory requirements
- Support content required for mission-critical operations, including manufacturing, training, maintenance, and operations
- Reuse content across similar product lines and for shared components
- Maintain integrity of information at all phases of the information life cycle, including distribution
- Reliably create the technical documentation to accompany products or services
- Effectively manage and publish large volumes of information for complex products
- Manage document authoring and production to follow the product development and manufacturing timeline
- Integrate information from technical drawings, line art, engineering data, or elsewhere
- Publish in different formats for the organization's products, customers, and business requirements
- Distribute updated content to the field in a timely manner

Deploying FrameMaker enterprisewide can substantially improve the entire organization's ability to access, manage, and use content as a knowledge resource.

Solution components

Technical documentation publishers need a solution with the following components:

XML—Much of the information that manufacturers receive is still in paper form, and must be rekeyed to create internal and customer documentation—an error-prone, time-consuming, and costly process. XML-based information management allows manufacturers to repurpose and customize documentation. Information common to all products and specific to individual products or models can be tagged accordingly and selected as needed for publishing. Because XML is a nonproprietary file format, it assists industry in maintaining information over long product life spans.

Authoring tool—The tool must support content aggregation from a variety of source applications, scale to support large volumes of documentation, and be robust and easy to use. It must enable easy repurposing into often long, complex, structured documents with large amounts of graphical and tabular content. The tool also should support creation of rich XML content across the manufacturing organization, without needing additional software tools or training. The solution must be template-based, to enforce consistency in internal and external documentation, to free content authors from formatting tasks, and to support the need for rebranding content that comes from component suppliers.

Server-based publishing—The architecture should support publishing parts catalogs and other data-intensive materials directly from a content management system or database repository.

Multichannel delivery—Built-in multichannel publishing can free manufacturers from the expense and lead-time constraints of paper publishing. The solution must support multichannel publishing to print, PDF, HTML, XML, or SGML, or one of several popular online help delivery formats.

Content management—This is especially important for manufacturers that need to manage large amounts of content used for diverse purposes and created by a wide variety of applications, and to support information change control, reuse, and repurposing. Automated workflow also can provide additional efficiencies in larger organizations.

FrameMaker 7.0: The solution for manufacturing

Manufacturers process and manage information from many sources, including suppliers of raw materials, components, and equipment. They generate content internally for process control and business planning. They create sales materials, product documentation, and maintenance information.

FrameMaker 7.0 software's template-driven publishing model, with the ability to aggregate content from a variety of sources and publish to multiple channels on a robust platform, make it an excellent choice for information management. Using FrameMaker software, content authors can create XML content without learning XML syntax. FrameMaker provides print capabilities on every desktop, without requiring complex add-on software or immature technologies. FrameMaker also provides built-in multichannel distribution capabilities.

Because FrameMaker software is template-driven, content authors can create consistently structured documents without worrying about formatting details. FrameMaker also can also incorporate content from a variety of sources, including Microsoft Word and many popular graphics formats. If XML content is required, authors can use FrameMaker in Structured mode. Workflows can be flexible and metadata can be used to identify content for reuse throughout the organization.

Using FrameMaker, an organization can create print, PDF, XML, HTML, SGML, and online help documents. FrameMaker software's XML capabilities enable manufacturers to provide documentation

that conforms to an XML DTD that could be repurposed as needed for internal and external documentation. This information could be controlled by the supply-chain management system, so that a product always would be accompanied by product information in XML, and both product and information would be managed and tracked throughout the manufacturing process.

FrameMaker software's multiple-platform compatibility is especially important for enterprise deployment. It makes content creation easy across organizational and geographic boundaries, even when content comes from multiple sources and is published to multiple formats.

Manufacturing has particularly pervasive needs for information management and reuse. Using FrameMaker 7.0 software, documentation that accompanies supplier-provided raw materials and components can be quickly integrated into the manufacturing organization's publishing template, distributed internally in a variety of formats, and reused in materials for sales and marketing, technical support, and documentation for customers—without manually formatting any information. The entire transformation can be accomplished by applying document templates with unique formatting rules.

Further efficiencies are possible. If suppliers, manufacturers, and buyers agree upon a standard set of tag names in their FrameMaker templates, each organization can set its own formatting characteristics for each tag and convert documents to its own look-and-feel simply by using its own template.

Solutions including FrameMaker or FrameMaker Server let manufacturers distribute information to those who need it, when they need it, and in the format that they find most useful.

For more information

For more information on FrameMaker 7.0 and FrameMaker Server software, visit the FrameMaker 7.0 Web site at http://www.adobe.com/products/framemaker/main.html.