

Adobe® FrameMaker®  
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# Motorola

## Semiconductor Products Sector

**Semiconductor manufacturer wins customers by virtue of accurate documentation, authored with Adobe FrameMaker and distributed in Adobe PDF**

### ABOUT THE CUSTOMER

- The world's number-one producer of embedded processors
- Revenue: US\$7.9 billion in 2000
- Employees: 30,000 worldwide
- Headquarters: Austin, Texas

### BENEFITS SUMMARY

- Adobe FrameMaker facilitates collaborative authoring because the global documentation team can open and revise documents on the Windows®, UNIX®, and Macintosh platforms without losing formatting.
- Company-standard FrameMaker templates improve document usability by helping to ensure that all the company's documents are formatted consistently.
- Book-level spell-checking, find, and cross-referencing tools in FrameMaker 6.0 promote accuracy and take one to two days off a typical week-long editing cycle.
- The cross-reference feature in FrameMaker helps ensure document accuracy: when a value in a cross-referenced diagram changes, the writer can change it once and know that FrameMaker changed it in all instances.
- By saving FrameMaker files as Adobe PDF files for publishing on the Web, Motorola SPS has slashed printing costs by more than 80%.

[www.mot-sps.com](http://www.mot-sps.com)

There's no such thing as a "small mistake" in the documentation that engineers use to incorporate semiconductors into their product designs. Even one incorrect digit in a diagram can cause hours of delay while engineers try to make a design work with the wrong information. It's no wonder that surveys rank documentation quality as "one of the most important criteria that customers use to select a semiconductor," according to Dave Huss, senior technical writer for Motorola's Semiconductor Products Sector (SPS) Wireless Subscriber Division. "Motorola SPS has the highest rating for accuracy of its documents, a fact we attribute in part to our use of Adobe FrameMaker."

The ten-person documentation group in the Motorola SPS Wireless Subscriber Division is one of scores throughout Motorola SPS that use Adobe FrameMaker and Adobe FrameMaker+SGML software to produce accurate, consistently formatted documentation. The group develops 300- to 600-page user manuals and 100-page data sheets for design engineers who integrate Motorola SPS products into pagers, PDAs, cellular phones, and other wireless devices. Motorola SPS then publishes some of the

materials in Extensible Markup Language (XML) for storage in a document repository and also makes the information available to customers, such as Palm and Handspring, on the Web in Adobe Portable Document Format (PDF).

### GLOBAL PLATFORM FOR GLOBAL CORPORATIONS

Ensuring accuracy and consistency in documentation is a daunting challenge in a global corporation. Motorola SPS adopted FrameMaker in 1990 to enable seamless collaborative authoring. "Collaborative authoring is the primary reason we standardized on FrameMaker," says Huss. "We're exchanging documents for review and revision between Israel, China, Singapore, and the United States. All locations use FrameMaker—whether on Windows NT®,

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UNIX, or Macintosh—so that documents created on one platform can be opened and revised on any other platform and retain their format.” The company has created standard FrameMaker templates so that all documents reflect a uniform look.

### BOOK-LEVEL FEATURES HELP ENSURE ACCURACY

Motorola SPS credits the book-level spell-checking, find, and cross-referencing tools in FrameMaker 6.0 with ensuring accuracy. “Engineers need to be able to count on the accuracy of every word and number in our documentation,” says Huss. “If even one value is off, that might cost one of our customers five or six weeks of fruitless attempts to make a design work. With FrameMaker, we can spell-check, find and replace, and search for cross-references across the entire book—all without opening each chapter individually. This saves one or two days in an average five-day editing cycle, and eliminates the possibility of forgetting to open a chapter to find and replace a value, for instance.”

The FrameMaker cross-reference feature, in particular, is critical for Motorola SPS’s lengthy documents because it minimizes redundant information, making the manuals shorter and more usable. “Every diagram has to be right, which is detailed and time-consuming work,” says Huss. “With FrameMaker, we cross-reference every diagram; if a change is made, we need only make the change once. This saves time and, more importantly, ensures that every instance of the diagram is changed.”

### COLLABORATIVE EDITING AND REVIEW

The Save As PDF command in FrameMaker gives Motorola SPS writers the option of distributing documents for review either as native FrameMaker files or Adobe PDF files. FrameMaker files are distributed if the

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writers want engineers to edit something directly, such as specifications, while Adobe PDF files are generated if the writers want engineers to provide comments but not alter the native FrameMaker files. When reviewers edit FrameMaker files, they turn on the Change Bar feature so writers can quickly see where changes were made. When they comment on documents in Adobe PDF, they use the annotation tools in Adobe Acrobat software to highlight, underline, strike through, and make other comments that are clearly visible to writers.

### AUTHOR ONCE, PUBLISH MANY

After authoring and editing a document in FrameMaker, Motorola SPS authors simply choose the Save As PDF command to create an Adobe PDF file for Web publishing. The Adobe PDF files are also sent to the Motorola SPS document design center and literature distribution center, where they are printed on demand for customers who request paper copies. The group plans to increase its use of

FrameMaker+SGML to export files to XML format, which Huss says is becoming a standard for the semiconductor industry.

### COST SAVINGS

The use of FrameMaker software and Adobe PDF files for Web publishing has dramatically decreased printing costs for Motorola SPS. “Three years ago we published documentation strictly on paper; now we rarely do,” says Huss. For example, for the Motorola DragonBall processor that goes into Palm and Handspring PDAs, Motorola SPS will distribute about 25,000 manuals as Adobe PDF files and print only 5,000 paper copies. As each printed copy costs about US\$10, Motorola SPS eliminated US\$250,000 in printing costs—a cost savings of more than 80%. The company also improved usability by delivering to customers a fully searchable document. And that’s just one of hundreds of manuals.

More important than cost to Motorola SPS is document quality. “Our customers depend on Motorola SPS for quality products, and that’s what ensures loyalty,” says Huss. “FrameMaker is instrumental in ensuring the quality and excellence of our documentation.”

#### TOOLKIT

##### Software

Adobe Acrobat  
Adobe FrameMaker  
Adobe FrameMaker+SGML  
IXgen plug-in for indexing in  
FrameMaker  
Microsoft® Windows NT

##### Hardware

Apple Power Macintosh G3 computers  
Dell PCs  
UNIX workstations



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