

Industry software

By Mark Marselli
editor

As the role of computer technology continues to grow more essential in all forms of business, people in the wire and cable industry understand that they *need* advanced software. The challenge, however, is for them to *get* what they need, which for some companies—especially for those that do not have employees dedicated to such technology—can mean treading in a murky, unfamiliar world.

After all, a manufacturer can appreciate the value and workmanship in a new wiredrawing system, but it's not so easy to commit to a substantial investment when all there is to look at are a few CDs. Will the software work as promised? How hard will it be to implement? Will there be hidden costs or future upgrade issues?

In this feature, five industry suppliers discuss what software can and should do and what they have to offer. It also includes the observations of an information technology director for a major cable company as well as a checklist of questions that might prove helpful to a company considering a software purchase.

Selling the need

Byron Ball, president of Base Ten Consulting, Inc., Amherst, New York, USA, said that software usage in the wire and cable industry is a mixed picture, with some companies embracing the technology and others trying to get by with as little as possible.

"Companies that are reluctant to invest in adequate software often are worried that it will cost too much to have and maintain, that they will buy a system that does not fit their needs and that it will not translate to real savings," Ball said. Beyond that, he observed, some people just have a fear of computers and do not trust putting money into something they do not understand. "We have found that most of the larger companies have made some commitment to software products, but even here, they often do not get a software package that totally integrates all

areas of their companies," he said.

"For all those reasons and more, the result is that there are many wire and cable companies trying to get by with less software than they really need," Ball said. "These companies often end up with some sort of mini-accounting package that takes care of general purchases, accounts payable and general ledger with billing or invoicing capabilities as well as some inventory control. The business is treating software as an easy way to print nice reports and ease some accounting needs, which does little for the manufacturing and quality areas but does free up the owner/management team to work on the scheduling/manufacturing and quality areas manually."

If a company understood what it could gain by investing in the proper software package, it would, Ball said, citing the following example of a medium-sized wire manufacturer that makes cold-headed quality products, among others. "Orders would arrive by phone or fax and be entered into a spreadsheet at the bottom of the open order list, which was used to schedule as well as ship from their finished goods inventory. They found that they were missing delivery dates, could not control their inventory and began hiring accountants and additional clerical help to keep it under control. Finally they made a commitment. Within three months, the company found that delivery times were no longer weeks behind schedule. Inventory was reduced by 35 percent and the software was paid for in six months from those savings. At the end of the first year, sales had increased by 14 percent and profit by 9 percent."

Ball said that his company's "Praetor" software package, which was able to help the above-cited company, has been designed with customization in mind. "We have taken great pains to include the specific needs of the industry, which vir-

tually narrows our product to specific like-processing industries. We use multiple tables, which are set up during installations that allow our customers to refer to



The planning board at Base Ten Consulting, Inc.

parts, products, machinery, etc., using their own terminology. This allows the customer to adjust what information their people will be using in each area. We also allow the actual screen titles and field captions to be changed to reflect more meaningful prompts. This also allows us to have multiple languages within one installation, since each user can be set up with a default log-in language."

The software can track all raw material chemistry from open purchase orders through individual coils shipped to a customer, Ball said. "We allow customer-specific chemistry to override standard mill chemistry for testing purposes by customer product. Raw materials are tracked by vendor, size (diameter), heat and inventory location. In fact we will shortly release a new version allowing you to track individual finished coils back to their originally received source coil identification and the very truck the material was delivered on. You can't do that with general software, and this is a vital area, because without it you cannot truly pro-

vide certifications of chemistry to your customers.”

Praetor can meet more than 90 percent of a small producer’s needs, Ball said. “We have allowed our product to be totally flexible for growing companies. If a small- to medium-sized company grows very large, our software remains the same but it changes the way the storage of the information is maintained. This allows growth companies to keep their original training expenses to a minimum without worrying about growing too fast for the software. All of our programs can be updated and we also can replace them as required. In fact, we schedule upgrades and updates every six to eight months.”

Ball observed that expectations have changed, “Ten years ago, people were looking to software to assist in their accounting and production reporting. They were just beginning to look for JIT (Just in Time) delivery. In the wire industry, their concerns were with freight in/out and having enough of the right inventory to provide a short turnaround for customers without tying up too many dollars. Now, customers want real-time information across the board. They want to track material demands, allocations, reduce inventory, increase productivity and ship the product to the customer on time. There’s also more interest in equipment use and efficiencies. Now, they want to know if you can integrate Internet access for sales people and customers, and how long will it be until you provide ASP services? Today’s customers have moved quickly into the current technology understandings, even if they are not using the technology to any great degree.”

In the next few years, Base Ten will be providing full ASP services, which from the customers’ point of view will eliminate their need for large MIS departments, Ball said. “We will maintain the programs and their data at our location and use private networking to provide computer software services as if we were in their building.”

Ball said that his company’s programs have been designed with distinct concepts. “First, every program must contain the same look and basic functions. Second, the user must find the program familiar and easy to use and understand. Third, the functions of each program must match the jobs of the people using the program. Fourth, the programs must meet or exceed the user’s expectations and abil-

ities to perform tasks required with out learning a lot of new tips and tricks.”

One other area that cannot be overlooked is the cost for training, Ball said. “We promote the ‘Train the Trainer’ techniques that allow your company to limit the cost of training. Training costs are directly related to the number of individuals you wish to train. With the Train-the-Trainer approach, the cost could be as much as 35 percent less than with group training.”

Offering a vertical approach to the wire and cable industry

Having sold complex business solutions to the wire and cable industry for more than nine years, Keith Berg, AXIS Computer Systems, Inc., Marlborough, Massachusetts, USA, believes that manufacturers should consider vertically integrated

software.” At some point, such companies need to go forward, to use a vertically integrated software system, because only then will they be able to get the returns they need to be truly competitive, he said.

What AXIS offers as the solution is its AXIOM/mx Open software, a vertically focused software package designed to cover all areas, including manufacturing, production, shop floor, scheduling, quality and finance, Berg said. “Our software is designed to greatly reduce the need for customization for the wire and cable industry. More than 90 percent of our customers use our standard software ‘out of the box’ with only some minor changes. The size of the company typically does not make a difference from a customization perspective. One of the key strengths of our product is its ability to define and manage material by attributes and characteristics. That type of capability is valu-



Keith Berg, president of AXIS Computer Systems, Inc., by a wall display of some of his clients.

software solutions.

“The larger producers of wire and cable typically purchased systems many years ago,” Berg said. “At that time,” he observed, “those products were quite limited in their applicability to the unique needs of the industry.” Some companies had software that was so heavily customized that they required a significant investment in staff to support and maintain, he said. The result, he noted, is that “they found themselves in the software business, unable to take advantage of newer technologies and newer releases of

able for a ferrous wire producer who has to track grade, gauge, tensile strength, etc. A cable manufacturer might be interested in color, gauge, diameter, number of strands, etc. The key is that attributes and characteristics can be changed and updated without modifying the source code, and they are invaluable for finding and scheduling material.

Berg noted that there is only one version of AXIOM/mx Open, so smaller companies can use it without having to worry that the system will not grow with

Questions to ask a software supplier

If your company is in the market for software, below is a checklist of questions you might ask that were suggested by the companies in this story. As one person said, it's not so much what a company *can do* as what it *cannot do* that you need to know.

- Do you have installations of the current package? If not, can you show me in depth how your product is used and functions? If something happens to your company, do you provide me with provisions for source code? Do you have references?
- What makes your software better than any other vendor's?
- Are you open to enhancing your package, now or in the future?
- What are the costs of third-party packages that you recommend and their annual support?
- If you use third-party packages, whom will I contact to get help?
- What type of industry background does your organization have?
- Where are your offices and how are you going to assist in implementation?
- Do I have a 24-hour access to you?
- Are you able to provide direct on-line support to any user I have?
- What will you be willing to do to get my business?
- Is your software based on an open architecture or can it become outdated?
- Is it "networkable," and what type of database storage does it have? Is it expandable? What additional software are you working on?
- Can I talk to people with at least three companies that have used your software? Can I visit one to verify fit and costs?
- Do you have all aspects of the software installed at any companies in my industry? (Crucial because many companies only implement a portion.)
- Can you demonstrate a full, linear business flow using your data (sales, manufacturing, quality, shipping, finance, etc.)?
- Does the software vendor support other verticals not related to mine? (This can impact where R&D dollars go.)
- How would I be able to continue to update or adapt your software if your business closed?

them. AXIS releases one major upgrade a year, which is available to all of their customers provided they have a Customer Support Agreement. This upgrade can typically be installed and running over a weekend, he said.

"No matter who the software company is, implementing a full ERP system is a major undertaking very often underestimated by the buyer," Berg said. "What AXIS does to make it easier is use a proven methodology called SurePath™ that is tailored to each implementation. It provides a detailed roadmap for the customer and AXIS to follow from project kickoff through live operation." He noted that that customers increasingly want not just faster implementations, but a quicker ROI as well. One plus with AXIS is that its staff includes people "who came from the manufacturing floor in wire and cable companies and understand the real life issues that customers face."

The level of investment in services that will be needed to implement AXIS' software varies, Berg said. "There are many factors at play, including the size of the company and commitment by its management, number of locations, level of competence and experience of the staff, to name a few. We identify all of the steps and quantify time and resources. The rest is execution."

Berg observed that, "even if they do not understand it completely, companies know that they need sophisticated software." A ferrous manufacturer, for instance, should be able to view a coil in inventory or WIP (Work in Process) and identify all the attributes associated with that coil, including the chemistry and quality tests, he said. The system, he added, should also provide a way of capturing the individual customer specification requirements and be able to show at any time where in the plant there is available material that can satisfy that order.

Berg said that one customer, a ferrous wire producer, was formerly a division of Bethlehem Steel Corporation. He recalled that when it was sold to a private buyer, the new people had to rent the existing software from Bethlehem at a significant cost. "Within one year, starting from implementation, they were fully using our application, including bar coding on the shop floor. They were able to ship significantly more product without a material increase in their work force. Now all their data is real-time, and they have not need-

ed to customize the application. Their ongoing costs have been greatly reduced and they now share accurate and timely information across their enterprise."

The single biggest area of interest now is the Internet, Berg said. "Many of our customers (and their customers) are requiring initially that information be made available over the Internet, and ultimately that they be able to function in a true B-2-B environment." The primary customer goal is improved customer service, "for which we offer e/Suite, which is a seamless integration with the AXIS ERP/MES system," he said. "That allows our customers' customers to log-in over the Internet and access not just order information, but quality data, account balances and many other useful pieces of information."

Just the software facts

Tim Fisher, president of FACTS, Inc., Cuyahoga Falls, Ohio, USA, believes that the time will come when the wire and cable industry sheds its less-than-sterling reputation for implementing software.

"I believe that competitive pressure will force the entire wire industry to adopt a more aggressive position regarding technology to improve quality, productivity, and information for efficient factory operation," said Fisher, whose company provides turnkey solutions for process controls and information systems for the plastics and rubber industries. That software, he said, directly controls the process, provides real time and historical analysis, provides full product tracking and links the factory floor control systems with upper-level, enterprise-wide MRP and quality systems.

"It is our belief that this decade will see a significant expansion in the number of companies that will automate their processing systems and information systems," Fisher said. They will be able to co-ordinate and control the complete production line; analyze and optimize the process; track all production status in 'real time'; report on good product produced, scrap and raw material usage; manage the overall production process; download job schedules directly to the floor system; provide the operator with quality information; minimize inventory and maximize productivity; and provide end-user documentation to assure a quality product

As long as competitors exist, software remains an ongoing priority

"There is no end line for companies anymore when it comes to meeting software needs," said Sharon Highlander, Director of Information Technology/Acting CIO, for General Cable Corporation, one of the world's largest wire and cable companies.

"As the business and customer landscape changes, so will the systems needed to remain competitive," Highlander said, adding that "the bottom line for software and systems is that they have a limited shelf life."

General Cable, which has vast product lines and manufacturing diversity, needs sophisticated software to remain competitive in vital areas such as marketplace speed and reliability, which are key components of customer service, she said.

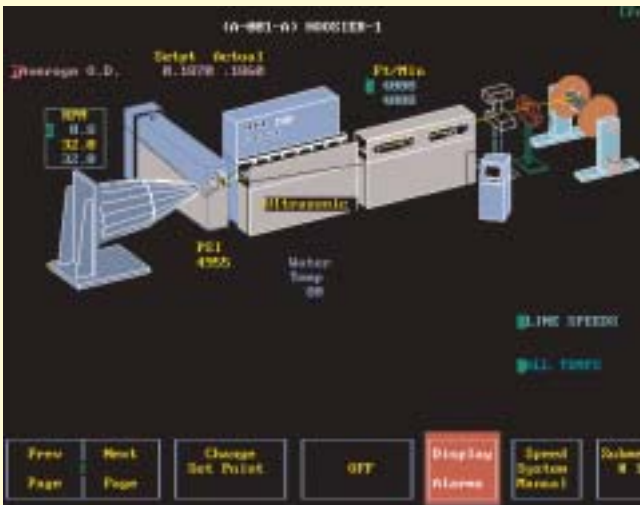
General Cable's company-wide adoption of an HFA ERP (Enterprise Resource

Management) system has enabled it "to take an order that spans across multiple product families and deliver a single shipment and invoice to our customers." It has also been able to improve its delivery commitments through a highly integrated Available-to-Promise model as well as reduce scrap on its cut length reels through a complex optimization model, she said. "Both projects have had a positive impact across all our business teams."

Highlander said that General Cable, which has multiple software suppliers, wants a provider that can meet both current and future functionality requirements. The provider needs to have a customer-focused forum, she insisted, one that enables General Cable to shape the future releases of the software to meet its changing business needs. "Price is always an issue, but it has to be considered in terms

of performance value equation, R&D spending and Return on Investment. Other factors are maintenance costs, including staff resources and availability; provider stability; product performance; supportability; and the installation base: who else is using the applications, and how successfully?"

Highlander observed that "the big push (today) is B-2-B, using the Internet as a common delivery mechanism." General Cable "has shifted resources, both within information technology, and within the business to develop solutions for this new business dimension. We are definitely focusing a great deal of attention on this piece of our application portfolio; however, we are moving cautiously into this space."



A display of FACTS' TLC 100G Total Line Control software for single extruders or small extrusion lines with integrated diameter gauges.

made to a unique specification."

If that sounds like a long list, Fisher is the first to agree. What strikes him as truly amazing, however, is that not all companies see their future needs in those terms. "The larger companies usually are the first to use advanced software based systems, often because they themselves have larger customers that have more stringent quality monitoring, control and reporting requirements. Companies that do not keep up will find themselves in the position of being noncompetitive and los-

ing customers. As companies downsize they also tend to look for ways to reduce the number of suppliers they must deal with, and suppliers that have systems in place to control and document (prove and assure) their quality as well as to reduce costs will make the cut. Those that don't, won't." If anyone doubts that scenario, he said, consider that the automotive companies have put their suppliers through this several times.

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"We believe that wire manufacturers will be addressing the following two key issues: applying advanced process control and transducer technology to achieve improved quality and productivity while reducing material consumption, scrap and labor content; and fully integrating their MIS with the factory floor control systems to better manage their factory operations," said Fisher, adding that user-friendly capabilities are essential.

configured for each customer," Fisher said. Customers can change or reconfigure the software themselves, or FACTS can provide that service, he said. The information systems, he explained, are based on standard commercial database systems that can be easily adapted, which means that the base software does not need to be changed for different applications. "It is simply configured using the tools we supply to edit the tables, thus making the systems appear and function as if they were custom designed." Complete updates are not needed for general process control software, he said, adding that his process control software uses a menu-driven touch screen.

FACTS does not sell kits, Fisher said. "We offer totally engineered turnkey solutions for each customer's specific application, which makes implementation easy for them. In the information systems area, the hard part is to get the customer to really define his requirements. After the requirements and deliverable functionality is defined, the implementation is the easy part."

Installation costs for process control software typically run between 15 to 35 percent of the purchase price, but that same cost can be much higher for an information system because "this is where companies most need help developing

requirements as well as the implementation and training,” Fisher observed.

Historically, MIS programs have been driven from the top down, with suppliers of MRP and ERP systems adding terminals and forms to capture manufacturing data from the factory floor, Fisher said. “This approach is expensive, inefficient and the data accuracy is generally poor. The additional workload for operators is also generally unpopular with factory floor personnel. FACTS recognizes that wire manufacturers sell wire products, not information.”

FACTS derives its management information as a by-product of the automation of the wire-producing equipment, Fisher said. He noted that his company is currently working on a plant-wide integrated information system for the new 355,000-sq-ft facility being built by American Superconductor. The system will encompass all the floor-level process control systems through the top-level enterprise systems, including MRP, scheduling, quality and maintenance systems, he noted. It will enable the customer to track each individual wire component throughout the entire manufacturing process, he said, using a sophisticated four-level architecture.

“That’s the kind of software that a company is going to need today, and even more importantly, for the future, if it hopes to be competitive,” Fisher said.

The new kid on the block has a software niche

Mystic Software, Oswego, New York, USA is a relatively new industry software provider, but Calvin Hall, its company president, believes that he has found a niche that will enable his business to grow and thrive.

“Our software is unique because we do what nobody else does: we start from the plant floor and work backwards,” Hall said. “Most companies try to make software work from the office but what they don’t realize is that manufacturing companies have to work from the shop floor to the office.” He explained that Mystic’s software enables a company to monitor its real-time productivity. A plant manager, for instance, can watch what is going on in the plant from one computer termi-



Mystic Software President Calvin Hall.

nal, he said.

Mystic’s DATS (Data Acquisition/Transmission Software) is designed with easy to use pull-down menus, Hall explained. It has an intuitive Graphical User Interface (GUI) that provides an ideal tool to see the status of the production process within the company in real time, he said. DATS collects data from a meter that is hooked to a specific machine(s) and returns it to the software package, which stores information in a user-friendly database, he said.

“Our software monitors machinery (by) efficiencies to rates, downtimes and why the machine was down: was the reason chargeable or was it non-chargeable? We graph all the reason codes so you can tell what machine was down longest by looking at graphs (pie and bar 2-D and 3-D) and we also allow you to print reports of all kinds,” said Hall, who noted that he became quite familiar with the industry as an Oswego Wire employee.

“When I was working in the wire industry, I realized that this was the missing link,” Hall said. “No one really knows what is going on with the company’s machines, but now they can find out in real time just by looking at the color of the status in our main screen view done. We even left this program open to allow the customer to put their own colors in to indicate what they might think is optimal, marginal, below spec, down or even in idle position for not running.”

Mystic’s software, Hall said, is written in visual basic and is adaptable to any size company. It doesn’t really matter how many machines you have, and it is able to work with any existing plant software a company may have, he said.

Hall said that his software’s ability to provide true data collection can help a

scheduler see from a terminal how the shop floor is doing as well as help the sales people who get calls from anxious customers. Another benefit, he noted, is that it can be a valuable aid in terms of pricing, because the information can help a company better understand its true production costs.

One person who believes in Hall’s software is Brian Gafner, manager of engineering for Oswego Wire, Inc., who knew Hall when he worked at Oswego and was willing to give his software a try. Over the last two years, it has been worked on to where it is now a solid program,” Gafner said. “A lot of packages can tell you that this machine ran ‘x’ hours during a shift, but his gives you information that you can actually look at and use,” he said. “It’s good for a supervisor to be able to say, ‘Gee, Ralph’s only been producing at 60 percent. I wonder why?’ ”

Hall said that his software can help determine which machines perform best with what products. Also, knowing why a particular machine was shut down creates a historical record that can be helpful for maintenance, he said.

While Mystic Software is a niche company now, Hall said that he sees plenty of opportunity in other areas, including a scheduling program as well as an inventory program.

The need can be met

Germany’s SAPAG, which is best known for supplying sophisticated software systems to some of the world’s largest companies, notes that part of its job is helping a potential customer understand why it needs advanced capabilities.

“I guarantee that if wire and cable producers could get a grip on the actual costs and profitability of products, you would see companies manufacturing whole new product lines,” observed Dan Stimson, SAP’s global industry marketing director for process industries. He noted that while SAP has served customers with 10,000 employees, it has also worked with some in the wire and cable industry with as few as 25.

The company’s mySAP.com™ e-business platform does things for companies that interfaced, standalone applications never can, Stimson said. “It links all of a company’s technologies and systems, people and processes so they can all work together as one.” It delivers a comprehen-

sive e-business platform designed to help companies collaborate and succeed, regardless of their industry or network environment, he noted. "From employee portals to mobile business solutions, the mySAP.com e-business platform provides all the solutions and services companies need to eliminate enterprise boundaries and participate in a global marketplace."

Stimson said that SAP Solutions is by far the most flexible and functionally advanced solution on the market, offering a more flexible and open architecture. "No vanilla software," he pointed out, "will be able to cover all the necessary requirements for all industries without an industry-specific focus." That is why SAP offers 21 industry solutions that guarantee that industry requirements flow into the development of new releases and products and services, he said. "Most of our competitors are reducing their industry focus significantly (but) SAP has several add-on products developed specifically for industry. Beyond this, companies can bolt on customized programs and algorithms to cover their specific needs through open interfaces."

The wire and cable industry "is quite conservative in accepting new technology," Stimson said. Europe, he said, has been quicker to embrace new concepts such as supply chain management and Internet technology has been stronger and faster than in the US. "The primary problem is that, because of the cyclical nature of the industry, companies cut costs in downtimes, and during good times, they invest in increasing capacity and not getting better control over productivity and

profitability. The only way to be able to do this is to invest in solid supply chain management (SCM) as well as enterprise resource planning (ERP) technology."

The smaller the company, "the more complete and intricate the software solution will need to be because of the high costs of interfacing disparate technologies," Stimson said. Larger companies generally have the resources to pick and choose the best individual solutions for each specific function, yet most seek to reduce the cost of investment as much as possible and avoid interfacing, he said. "Most companies need to be a certain size to be able to survive in the wire and cable industry because of the high capital investment in production machinery and materials. Other than very local producers of wire and cable, (they all need) a good business software solution."

A wire and cable company that needs software should not invest in anything that does not provide significant value, said Stimson, explaining that an "expensive proposition" is relative. "I think that a wire and cable company would have no problem calculating an investment in more efficient production machinery. That's what they have been doing to stay in business, but when it comes to investing in software, even though the calculations are similar, it is a mental block that makes them hesitate. After all, for the same investment as a piece of production machinery, they are getting four or five CDs that look a video game. Executives and purchasers have to get used to the thought that investing in business information technology probably gives them a

higher value than any new machinery."

The advantages of buying a standardized software technology are many and certainly outweigh the advantages of writing customized software, Stimson said.

SAP has been working with the wire and cable industry for many years, Stimson noted. "The industry experience that flowed into product development cannot be claimed by any of our competitors. I would be wary of software providers who promise that the functionality will come in the next release, or rewriting (modifying) the coding of a standard software package."

Stimson noted that implementation of a project can affect the entire company, from the CEO down. "To cut cost out of such projects, end-user training is usually the first to be canceled. This increases the learning curve and lengthens the time until the return on investment can be realized. Luckily, the use of Internet technology has significantly reduced the learning curve, and helps users get up to speed."

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