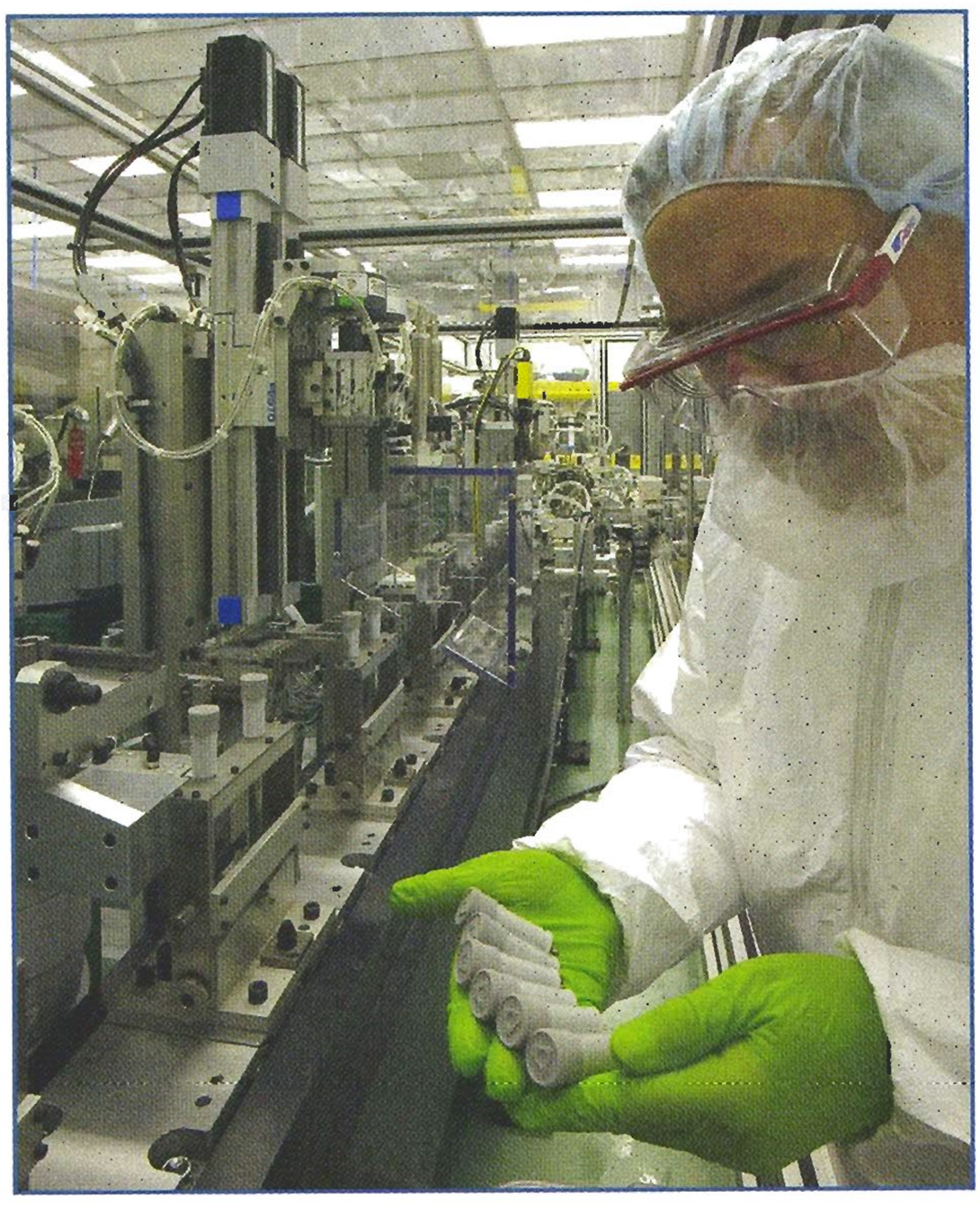
Supply Chain Evolution

As manufacturing models change, suppliers develop new approaches to customers' supply chain needs. Following is a look at how they have reacted to shifts in the marketplace.

Jennifer Whitney, Editor

Tackling manufacturing supply chain issues can be a lot like renovating a house. A major kitchen renovation, for example, can be challenging and time consuming, not to mention extremely stressful. First, you have to come up with a concept, then hire help to achieve your vision. Any number of service providers may need to be involved—a crew for the construction, a plumber, an electrician, a flooring expert, suppliers for your appliances and countertops. It may seem as if the supply chain never ends. Trying to find qualified individuals and validate their prior work can zap your energy, which otherwise could be put to better use in other areas of your life. All you want to do is see your vision become reality and have your home gain value in the market—as quickly and painlessly as possible.



As supply chains become more complex, many one-stop shopping models to save their customers time and money. Photo courtesy of Precision Medical Products.

Enter the general contractor. This individual can become your one-stop shop for all these services. Rather than spend hours on the Internet researching providers and then getting on the phone trying to get a flooring or other specialist to call you back, the contractor saves time (and often money) by working with experienced networks of providers who will be there to solve the problem and get the job done. Before you know it, your time is freed, leaving ample time to work on developing and turning other dreams into reality.

The medical device industry, like many others, has been operating with a similar "general contracting" type of structure for its outsourcing operations. With growing economic pressures due to maturing product lines and a need to keep up with the competition for new innovations, OEMs want to focus on their R&D and product launches—and that has boded well for many of their suppliers. Not only do service providers often no longer have a micromanager for a customer, they become trusted partners who can support the activities required to get the product to market.

Although general contractors are nothing new to the average layperson, in the device field, the concept of leaving supply chain management to one or two trusted service providers is still a fairly recent evolution, according to some of the industry's top contract manufacturers.

"In general, the concept of supply chain management versus 'purchasing' seemed to really gain momentum and national attention around the turn of this century. When the tech bubble burst five years ago and the stock market slumped, businesses began to refocus their atten-

tions and efforts on cost reductions and the concepts of Lean manufacturing and value-added production that were promoted by the Toyota Production System," said Chuck Camp, general manager for Teleflex Medical OEM in Kenosha, WI. "As the major players focus on R&D, they rely more and more on their supply chain partners to support all the rest of the activities that are required to launch new products and supplying goods and services to the market to meet the demands of the medical community.

"In the end, while medical product supply chains may not have changed much in their physical appearance over the past 10 years, they have changed considerably in terms of what is driving them and the skill sets necessary to be competitive in a global market," Camp concluded.

Recognition of this shift is apparent in how service providers are changing their approach to accommodating the different mindset among OEM customers. For example, in 2004, Paragon Medical developed a progressive supply chain model for its business operations while working with a customer during a strategic session. Through conversations with the OEM customer, an orthopedic company, one of the top insights gained in evaluating the industry was that the overall orthopedic industry (like the overall device market) was significantly consolidating. That evolution has affected the types of partnerships OEMs form with service and component providers.

"I believe there's a corresponding compression in the supply chain in response to compression seen in the OEM base," said Cory Colman, senior executive vice president for Pierceton, IN-based Paragon Medical. "We believe the large OEMs are expecting their supply chain to offer them a broader and broader portfolio of services. Because that compression has taken place, we must be able to expand to embrace more activities where they maybe [traditionally] had more suppliers." A few years ago, he recalled, one of Paragon's OEM clients had up to 40 suppliers for one product classification. Now, the manufacturer has narrowed that group to about nine suppliers.

"You can imagine hypothetically that if they wanted us to be a strategic partner and we didn't do five-axis milling, for example, we'd have to offer that [to keep the business relationship]. Before, maybe we just had to focus on large joint," he said.

As a result of this shift, the seemingly constant mergers and acquisitions occurring among OEMs are trickling into the supplier market as well. Some providers are working to stave off being swallowed by strengthening their regulatory and quality systems and by offering new services, whereas others may be positioning themselves as candidates ripe for acquisition by larger companies. Furthermore, some of the smaller organizations are looking to become tier-one providers to the larger, well-established tier-one providers, creating a newer food chain in the industry.

All these changes are creating a host of newer specialists in management teams as

well. While procurement or sourcing managers have been a mainstay in the industry for a long time, it's only been in the past decade or so that strategic supply or global supply chain oversight has been added to a company's management force.

"Over the past two years, we have even seen the emergence of job titles and job descriptions that specifically call out supply chain management positions," Camp said. "These companies are usually looking for individuals who would hold international cross-functional roles and effectively manage laterally rather than vertically."

Streamlining Processes

Professionals managing supply chains today often are charged with finding ways to consolidate their number of outside providers used to get a product to market. Alternatively, some OEMs still use a large number of suppliers but rely more on one outsource provider to manage the supply chain for them. Therefore, many suppliers are growing their business to become that tier-one supplier.

"Our theme from Day One in forming this company more than 10 years ago was to be a total source provider. We've gone in the direction of turnkey products for customers, which is beneficial for both startups and larger companies. They want a finished product, so we try to vertically integrate as much as we can," said George Weaver, vice president of marketing for Precision Medical Products (PMP) in Denver, PA. "I'm working with probably five of our larger customers to innovate new products for them—they have gotten away from developing products themselves. They want to buy the finished product. They'll bring an idea to us, but they want you to do the prototypes, do the risk analysis, make the products for clinical sampling, etc. Customers are looking for us to play a bigger role in developing products for them. And as new products evolve, so do new processes. As they become mature, we really focus on bringing those processes in-house," Weaver said.

This year, for example, PMP acquired new laser marking and welding equipment for one of the more mature product lines it manufactures. The company successfully employed this type of strategy in the past, as demonstrated by PMP's purchase in 2004 of its molding facility.

To maintain a status as a premier solutions provider, a global focus often is essential these days, since many OEMs are launching product lines in emerging markets such as Asia and Europe.

"Ten years ago, there were hundreds of providers of injection molding, and that's all they did. As the market changed and companies vertically integrated, people needed to do other things to be successful, such as adding packaging, assembly, laser etching, etc.," Weaver explained. "We purchased our molding facility in southern York County [PA] and integrated it into our operations so that now we can offer [a wide range of services]. I think you have to do that in today's marketplace in order to remain competitive."

As one of the largest providers of one-stop shopping for orthopedic OEMs, Symmetry Medical's business model is another prime example of how manufacturing partners are changing their approach to meeting their customers' needs. In 1997, the company consisted of only two locations and outsourced several specialty services, such as heat treatment and anodization, to other providers. Over the years, however, the Warsaw, IN-based company has integrated its supply chain by steadily acquiring leaders in their given specialties, such as its 1997 acquisition of Polyvac, a leading case supplier to the orthopedic industry, and its merger with the Mettis Group, an implant provider, in 2003. Today, the company has 19 facilities, each operating under its Total Solutions model. Symmetry's expansion of supply chain offerings was achieved both by acquisition and internal expansion, such as the 2004 enhancement of its design services offering, which now operates in the United States, United Kingdom and Asian markets.

But the work didn't end there. In 2007, the company created a new global procurement executive position to coordinate outsourcing efforts as well as to identify and qualify new partners.

"For years, we've strived to have optimal equipment and resources to respond to demand. Our customers had fragmented supply chains, and our business model had value for them," said Barry Parker, senior vice president, design and development for Symmetry Medical. "For the most part, [OEMs] want you to be a high-quality and responsive supplier, and they want to minimize their involvement. Customers are even bringing suppliers that they once dealt with independently to the table with us. They have us plan together. They've streamlined enough that we're not necessarily competitive suppliers but strategic suppliers, and it's fostered more of a team approach to developing systems."

About 62% of Symmetry's revenue comes from the United States, Parker said. Since the remaining portion is scattered elsewhere, the company has been working with logistics experts in the past few years to implement structured supply models globally. "We've done a good job or working with suppliers at local levels and now we're looking at global levels," Parker reported.

To maintain a status as a premier solutions provider, a global focus often is essential these days, since many OEMs are launching product lines in emerging markets such as Asia and Europe. With the realization that offshore competition has presented certain challenges to US-headquartered supply operations, many service providers are focusing efforts on getting involved with a project in the design stage in hopes of getting so immersed in the product's development that they can maintain the business as the product lifecycle continues past manufacturing.

"In terms of manufacturing products, you can count on five to 10 years in this country, but as they expand into other world markets, you can't be making all of those products—so it's handed off to other countries," Weaver said. He illustrated this phenomenon by noting that one product line of orthopedic instruments used in

Disaster Averted: Suppliers Plan for the Unexpected

When the industry speaks of risk mitigation, often it is referring to ensuring product safety among users. In the supply chain, however, it also means careful attention toward preparing plans for responding to and containing disasters before they can devastate a business and impact customers.

For example, within the past 18 months, Pierceton, IN-based Paragon Medical, has been developing contingency plans in the event of a major event, such as a tornado hitting a Midwest facility or a fire at a manufacturing plant.

"The OEMs are putting a bigger portion of the pie into our company, so in a sense, they're exposing themselves to more risk. When they do so, they expect we'll have a way to mitigate it," said Cory Colman, senior executive vice president for Paragon Medical.

Nobody likes to think about the possibility of catastrophic events occurring, but those who have experienced a major hit can attest to the value of disaster planning.

Last spring, heavy floods plagued parts of the United Kingdom, and Symmetry Medical's Sheffield facility briefly had to be shut down. Since the company (whose US headquarters are in Warsaw, IN) previously had developed a business continuation plan in 2006, however, the discontinuation of operations was minor compared to what may have transpired if disaster planning had not been completed.

"It was amazing," recalled Barry Parker, senior vice president of design and development for Symmetry Medical. "When you encounter something as traumatic as that, you don't think very clearly, and it's beneficial to have a plan in place. Our customers got to see the benefit of that plan right away.

"In the past, some facilities had disaster recovery plans, but we standardized the format for that across the board," he continued. "It does, in fact, work very well."

Although catastrophic events are rare, many companies understand the value of what companies such as Symmetry have done in their due diligence. George Weaver, vice president of marketing for Precision Medical Products (PMP) in Denver, PA, said his company tries to have two qualified vendors available at all times to protect manufacturing operations should one of the vendors have a major problem. In PMP's own operations, the company maintains its supply of resins at both of its locations (the two are located within an hour of each other) to ensure supply is always available.

"Some resins for implantables can take a long time to acquire, and it's very expensive. We keep our supply at both locations so if a disaster were to strike, such as a fire, we're not caught short," Weaver said.

—*J.W.*

arthroscopy procedures was developed in the 1980s in the United States but has since expanded into the global marketplace. With the large volume of product being made, the OEM realized that it would be more cost effective to make the products in Third World countries. With this reality facing US manufacturers, Weaver said that it's essential to keep gaining new product lines full of innovative technology so US manufacturers will continue to prosper.

"There's enough new products coming out that there's plenty of opportunities to go around. If you focus on leading-edge technology, you'll be manufacturing for many years to come," Weaver said.

To serve customer needs, suppliers also are taking on more responsibility for managing inventory, forecasting and working with electronic media to provide visibility into the supply chain. Paragon, for example, has implemented an electronic-based system in which each of the company's divisions uses a uniform database and software. Although the system was costly, the company believed that it was vital for clients to be able to see a streamlined operation throughout the company regardless of location, and that it was equally important for Paragon to be able to understand how interplay of the different divisions impacted clients and itself overall. In addition, through Paragon Medical's Cooperative Build Partners program, the company has been figuring out how to find strategic partners in the supply chain and build its own presence as a tier-one provider.

What Matters Most

The supplier market indeed may have changed somewhat in the past decade, but some things will never change, experts said. Whether a product is made in the United States or internationally, quality and product traceability are paramount in becoming a long-term, trusted service provider. Whether a component or finished-product manufacturer, suppliers today only will be able to compete in the long run by proving they understand and can adhere to FDA and other regulatory requirements.

"Through all of the shifts and twists and turns, the quality and traceability of the product with documented proven supplier performance is an absolute requirement," Camp of Teleflex said. "Today a successful medical products supplier must assume the responsibility for quality and on-time delivery, manage the customer's inventory and reduce costs year over year."

Just as new generations of products continually reshape the medical device market, it appears OEMs and suppliers alike will continue to refine supply chain models in years to come—and along the way, continue to strengthen partnerships in reaching a common goal: to produce optimal products that are safe and effective with high profitability potential.

"Customers are looking for their supply chains to add more value. The secret for us is to keep adding more to it," Parker of Symmetry concluded. ❖

Editor's note: This article originally was printed in the January/February 2008 issue of Orthopedic Design & Technology *magazine. If you would like to read other articles from* ODT *or sign up for a subscription, visit www.odtmag.com.*