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SPECIAL REPORT

The China Riddle

To survive, smaller U.S. manufacturers will have to export. Therein lies a dilemma.

BY DALE BUSS

Once a week, Jay Williams pulls up a spreadsheet on his personal computer and prints it out. It's an eyes-only list, which he updates on the basis of his own intelligence sources, of the major construction sites around the world for plants that make volatile gases like chlorine. His small company, Fetterolf, makes custom valves to regulate gas flows in those plants, so the list is a compilation of the places where Williams needs to do business.

The list underscores why exports to China now account for about 40 percent of the Skippack, Pa.-based company's $12 million in annual revenue. "There are 20 projects in China where they're building in valves like ours," says Williams, taking a minute to count off the locations by tapping each one on the page with a pen. "In the United States, there are just three projects and four in Europe. We need to follow the construction money, so it's self-evident that we need to be in China."

For small and medium-sized manufacturers, China's continued assault on world markets and its high rates of economic growth are a double-edged sword. On the one hand, China's manufacturing prowess threatens to blow away any U.S. company that attempts to compete on the basis of price. But if the chief executives of those companies can figure out how to ride on China's momentum, profits could be large. What makes the challenge so great for smaller companies is that they can't afford the large investments that General Motors, Delphi and other large companies are making in China.

So whether more medium-sized and even small U.S. companies, like Fetterolf, can export their products to China has huge consequences for them and for the U.S. economy as a whole. Some have even begun manufacturing or final assembly there, taking advantage of China's labor-cost advantage to produce goods for export back to the U.S. and other developed markets.

Tackling China can be daunting. Most smaller U.S. concerns still aren't used to the idea of exporting anywhere. "European small and midsized companies are accustomed to looking abroad," says Bill Primosch, senior director of international business policy for the National Association of Manufacturers. "But for too long, U.S. small and midsized businesses have relied only on the U.S.

market and haven't been willing to venture out."

But as China seeks to build a full-fledged industrial economy, the level of sophistication in the products it is seeking has risen dramatically, and that creates opportunity. "Ten years ago, they were as backward and as trailing-edge as you can imagine," says Doug Neugold, CEO of ATMI, supplier of advanced materials for the manufacture of integrated circuits in Danbury, Conn. "Today, in pockets, they're working to be as leading-edge as you can imagine, and that's reflected in nearly every industry."

One problem is that China remains "a black hole for correct information" about its economy, says George Haley, a professor of international marketing at the University of New Haven. And even large foreign companies in primary Chinese cities have problems with basic steps such as becoming known, identifying and communicating with customers, fulfilling orders and resolving disputes, notes Ken DeWoskin, a senior consultant for PricewaterhouseCoopers.

Piggybacking

That's why some of the midsized and smaller American manufacturers that so far have succeeded in China have followed major U.S. companies into the country, a practice known as piggybacking. Fetterolf, for instance, began exporting to China several years ago to support DuPont, Dow Chemical and other large chemical companies that were undertaking projects there.

Now, it is Chinese enterprises and companies that are building the chemical plants. That creates a particular challenge for Fetterolf, Williams says, because of his Chinese customers' emphasis on price as a purchasing criterion. "A guy in China may sell for $3,000 a valve that is similar to my $30,000 valve," Williams says. "But this guy gets money from the Chinese government every year, and he doesn't really know his costs. I have to sell my product in a way that price isn't the relevant part, by emphasizing quality and the benefits for plant performance and worker safety. Plus, I always need to be advancing technologically." Over the past three years, Fetterolf's Chinese sales have tripled.

Nordson, a manufacturer of precision-dispensing equipment, took a different path to success in China. The company recruited third-party distributors in China in the mid-1980s and gradually built its own 100-person sales and service force in the market. Its executives recognized a tailor-made opportunity for exporting: Nordson's devices, which deposit sealants, adhesives and other substances in the manufacture of consumer and industrial products, are complex instruments for which direct labor accounts for less than 10 percent of the cost, diminishing any initial temptation to manufacture in China.

"We went in with sales and marketing first and built domestic demand rather than starting with manufacturing, because it was more logical to us to build demand rather than capacity," says Peter Hellman, president and chief financial officer of the nearly $800 million company in Westlake, Ohio. Asian markets account for about 12 percent of the company's overall revenues, and China—on the strength of a fiscal 2004 sales increase of more than 50 percent—already comprises half of its Asian business. "And because of the way we approached it," says Hellman, "our Chinese operations always have been profitable."

Until recently, America's infrastructure for helping smaller companies crack China was embryonic, presenting just a few experienced agents at the federal or state levels. But Kendig Kneen, the CEO of Al-Jon, a $40 million, family-owned manufacturer of scrap- and solid waste-processing equipment in Ottumwa, Iowa, can attest that the situation is improving. Kneen had been tracking China for a few years because he recognized that its newly voracious appetite for steel scrap had sucked overcapacity out of the world market. But he wanted to investigate the country's export potential himself.

So last fall he went on a trade mission to China sponsored by the U.S. Commerce Department and the National Association of Manufacturers. For $2,500, Kneen joined what the Commerce Department calls its Gold Key program, which made initial contacts with potential distributors and end users of Al-Jon's products in Beijing and Shanghai and arranged for interpreters. "People they contacted were impressed that the U.S. government had contacted them and wanted them to speak with businessmen from America," says Kneen. "It allowed me to go over there and in just three or four days to do what would take me two or three months to do on my own. And I don't have the staff to do it anyway."

Actually, in Kneen's case, the Gold Key contacts quickly helped him grasp that the Chinese market wasn't quite ready for his wares. What he found is that the Chinese automotive market is still so new that few owners have gotten around to scrapping their cars, meaning there would be little immediate demand there for Al-Jon's $140,000 to $380,000 car crushers. Kneen also discovered that the country's landfill technology is still "Stone Age" and that the German government was subsidizing sales in China of German-built competitors. "It's still a couple of years away," concludes Kneen, whose 115-employee company exports about 20 percent of its production. But he hopes within a year to identify potential dealers in Beijing and other cities. "And I left confident that, at some point in time, China will be a good market for us."

Such a long-term orientation can be crucial for the success of U.S. companies in China. "You can't just ship a product over there," says Jean Marie Marchetto, director of business and trade development for the World Trade Center of Greater Philadelphia, a not-for-profit business-assistance organization that has about 90 outposts in the United States. "You have to go there and become knowledgeable and become networked." Increasingly aware of the importance of doing such homework, about 15 local companies now are members of the CEO China Operations Club, a roundtable group that has met every other month since the beginning of the year, when the World Trade Center formed it with just three members.

As American companies are discovering, the market poses other stiff challenges to would-be exporters. Among them is confusion about which markets to target: Enterprises in the coastal industrial belt that includes Beijing, Shanghai and Guangzhou have already developed their contacts with and channels to the West. So the trick is to find potential partners in parts of China that are being pulled into the world economy while avoiding remote regions such as Qinghai or Tibet where international business simply cannot be done. DeWoskin of Pricewaterhouse advises clients to avoid the vast Chinese interior at first because Chinese business rules and practices vary widely among the provinces. "And there's no hope of ever resolving any dispute favorably," he warns, "because they're more loose about how they interpret the law. The interior is more like a bunch of frontier towns."

The Piracy Challenge

But regions such as the heavily industrialized northeast of the country are just now getting serious about connecting with foreign partners. "For small and medium-sized companies, second-tier cities and provinces are much more attractive now," says Savio Chan, president of U.S.-China Partners, a Melville, N.Y.-based business matchmaking organization. "You might get the local governor or mayor to welcome you, and you can get a lot more things done there."

For example, Loren Labs may find a market in China for its powerful new anti-microbial cleanser because of the country's recent trauma dealing with SARS, the fatal respiratory disease. So Chan is helping the Research Triangle Park, N.C., startup by schmoozing potential distributors in Shenyang, a northeastern city of about 8 million. "We wanted to pick a province where we can be effective, measure our results and move on from there," says Bill Beres, president of Loren Labs.

One major irony is that the best prospects for American exports are in highly sophisticated industries where Western companies continue to hold a technological advantage—and yet, technology-intensive products are some of the riskiest exports to China. Official protestations to the contrary, the Chinese simply don't believe in intellectual-property protection.

American exporters know they must protect themselves. So Polymeric Systems, a Phoenixville, Pa.-based maker of adhesives and sealants, exports certain fillers, curing agents and tubes to its contract manufacturing operations in China. That way it doesn't risk thievery of the formulas and designs. And Gerber Scientific engineers design circuit boards for the Chinese market to self-destruct if they're tampered with. "We start out with the assumption that if we're going to sell product into China, if they want to reverse-engineer or copy it, they will try," says Marc Giles, president and CEO of Gerber, a $517-million manufacturer in South Windsor, Conn. "Then we layer in any security we can."

Yet, says Giles, it's also possible for companies to become overly concerned about the potential for a Chinese rip-off of their designs and patents. For one thing, most small-volume products "aren't high on anyone's priority list in China" unless they're computer or automotive components. And further, he notes, "If you want to compete globally—and you're foolish if you don't—your advantage is going to be keeping up the pace of innovation. Not worrying about whether they're going to copy you in China, but making sure that you remain one step ahead of them."

Another challenge in exporting into China is the value of the yuan. Officially, the Chinese currency is pegged to the U.S. dollar, but in reality the Chinese government undervalues the yuan by 25 to 40 percent, maintains Cliff Waldman, an economist with the Manufacturers' Alliance/MAPI, a Washington, D.C.-based trade group. "That effectively creates a 25 to 40 percent tax on exports going into China, which is a very difficult situation especially for small firms," he says.

But perhaps the greatest riddle facing American CEOs is whether to take the leap of manufacturing in China instead of (or in addition to) merely shipping over U.S.-built goods. Factors such as the low manufacturing wages and the Chinese government's increasing pressure for "domestic content" make the move inevitable for some CEOs.

How Smaller Companies Try To Crack China

Company	Products	Annual Sales (in millions)	China Strategy
ATMI Danbury, Conn.	Materials for integrated circuits	172	All Chinese sales are exported from U.S. now, but within five years a substantial portion will be made there
Al-Jon Ottumwa, Iowa	Car crushers, landfill compactors	40	Biding time while Chinese gain enough environmental consciousness to be good customers
Behlen Manufacturing Columbus, Neb.	Metal buildings, presses	160	Became minority partner with Chinese companies to manufacture in China; moving toward majority-partner status
Data I/O Redmond, Wash.	Chip-programming systems	25	Began exporting from U.S., now designing products in China and planning full-scale production soon
Fetterolf Skippack, Pa.	Industrial valves	12	Piggybacked at first with large customers, now carving out its own growing export trade
Gerber Scientific South Windsor, Conn.	Diversified technologies	517	Long-time exporter-only now plans to source as much as half of China sales in Chinese plants within five years
Loren Labs Research Triangle Park, N.C.	Antimicrobial cleanser	Startup	Looking for retail distributors, starting with the Chinese hinterlands
Nordson Westlake, Ohio	Spray-dispensing systems	794	Strong exporter to China but still plans to double manufacturing there, to 10 percent of corporate total
Revere Copper Products Rome, N.Y.	Industrial copper	NA	Has dabbled in China but not confident of expanding the practice

Being Where the Action Is

In the case of ATMI, the Connecticut-based maker of advanced materials for integrated-circuit manufacturing, the company's ambitions in China are advancing so quickly that exporting alone may no longer satisfy them. Executives of the $174 million company decided to crash China after watching Semiconductor Manufacturing Industrial Corp. (SMIC), a Taiwanese-owned company with big operations on the mainland, rise out of obscurity to become the world's third-largest semiconductor-chip manufacturer in just a few years.

Since 2002, ATMI has set up sales and service offices in Beijing and Shanghai and expanded its staff to 15 people. The company's products were technology-intensive, rather than capital- or labor-intensive, so it made sense to penetrate the market by exporting from the U.S.

Now, however, like many companies that start out working China solely with exports, ATMI is facing pressure to establish manufacturing there. For one thing, customers such as SMIC are beginning to suggest it. And ATMI could cut its overall costs by as much as 10 percent by sourcing a key raw material, deionized water, in China. “Right now, we're paying an awful lot by the pound to ship our finished products containing that water across the Pacific Ocean,” says Neugold, who was named CEO of ATMI last fall. “But we're adding value over here and paying tax and duty on it over there—nonvalue-added costs associated with completely manufacturing it here and shipping it over there.” Because of such factors, Neugold says, ATMI likely will end up producing as much as half its total volume in China and other locations in Asia within five years.

Data I/O, based in Redmond, Wash., has boosted its Chinese business to about 15 percent of its $25 million in annual sales, from just 2 percent four years ago when the maker of device-programming systems began exporting to China through sales representatives. But for a year now, the company has been establishing a product-development and manufacturing operation in China. The decision to build in-country wasn't so much based on the fact that Data I/O's several dozen U.S. production workers earn from $30,000 to $50,000 a year while comparable help in China could be hired for less than $10,000 a year, because direct labor is a small portion of its costs, says Fred Hume, president and CEO.

Rather, Hume says, Data I/O needs to have Chinese people in China thinking about how best to capitalize on the extremely low price points in the Chinese market, instead of having American executives impose product and other decisions they're making for the entire world. “We need a different mind-set and basis that allows us to be competitive over there, and it's almost impossible to do that from here,” Hume says.

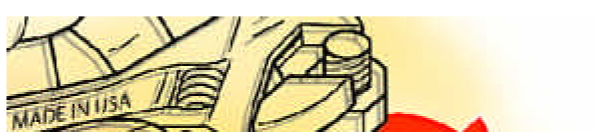
CEO Tony Raimondo saw exports to China by his $160 million company grow steadily over the 15 years that he owned Behlen Manufacturing, a Columbus, Neb., maker of pre-engineered metal buildings and metal grain silos that sell for $50,000 to $1.5 million each. But then in 2000, Behlen lost its biggest customer to China to a competitor that had begun manufacturing in the country and bidding much lower.

So in 2001, Raimondo launched a joint venture with a Beijing company that, among other things, has landed the prestigious contract for erecting the aquatic center for the 2008 Summer Olympics. “Now, with the competitors inside the country and some tariffs on our products, we're at a 30 percent unfavorability in costs when we export from Nebraska to China,” Raimondo says. “We didn't have much of a choice: Walk away from our customers there or do our manufacturing inside China.”

Clearly, it is possible for smaller U.S. companies to export to China as part of a broader strategy of research and development, sales and procurement. There are no reliable figures, but it appears that the small and medium-sized company CEOs who have figured out how to do it are a distinct minority. If other CEOs don't get decimated by low-cost Chinese competition, they'll have to learn the sometimes painful lessons learned by the early leaders.

Shifting Shores

Some CEOs have concluded that the cost gap between their U.S. operations and what is available in China is so huge that



achieving efficiencies of 10 to 20 percent at home simply isn't enough. "If you are still producing anything labor-intensive, get out now rather than bleed to death," says Ohio State University business professor Oded Shenkar, author of the book, *The Chinese Century*. "You will need an entirely new business model to compete."

So as the old saying goes, "If you can't beat 'em, join 'em." Some corporate leaders, like those at IBM's PC division, are deciding to simply source their products in China and concentrate at home on research and development, logistics and marketing.

That's precisely what the Chinese government wants and it offers incentives to CEOs to find Chinese partners to make their products, says Zhang Wei, Beijing-based vice chairman of the China Council for the Promotion of International Trade (CCPIT), a semi-official organization that is emerging as the country's Chamber of Commerce.

Zhang says that, much as in the U.S., there are more smaller companies in China than big. "There are only a handful of companies that can be called large-size," meaning annual income of more than $40 million and more than 2,000 workers, he says. Only 1,948, in fact. But there are 4 million other companies, including those which are government-controlled, privately held or of mixed ownership. The vast majority have not established foreign connections, which the CCPIT wants to fix. "We want manufacturers to come to China," says Zhang. "The manufacturing sector is promoted and encouraged by the central government."

He says the government will arrange loans or credits from Chinese banks to U.S. manufacturers that have good credit ratings, strong reputations for their products and good governance practices. The government looks for U.S. companies that wish to both export and sell inside the country. Adds Zhang: "They don't need to bring a lot of money."

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