

Yes, You Can Go Home Again, Say Some Manufacturers

Are We Starting to See a Reversal of the Offshoring Trend?

By Mark Shortt

Recent news reports of U.S. manufacturers bringing their operations back to the U.S. (see “Some Manufacturers Find California Cheaper than China,” Ron Leuty, *San Francisco Business Times*, July 24, 2009) are stoking speculation about the future of American manufacturing, its role in the global economy, and just how pervasive these decisions to pull manufacturing from foreign lands might become. Are they evidence of a trend, and could they be a sign of bigger things ahead—what many are hoping will be a reversal of the manufacturing exodus to overseas nations?

Jonathan Lee, vice president of the **Corporation for Manufacturing Excellence (MANEX)**, a consulting firm in San Ramon, Calif., believes that “it would take a lot” for a major reversal of offshore manufacturing to occur, mainly because large differences in the cost of labor still exist between the U.S. and China. “We haven’t seen a tremendous wave of OEMs flat-out leaving their international partners (suppliers),” said Lee in an email to *Design-2-Part*. “However, there has been significant discussion and planning in this arena. It seems to have more to do with industry and industry-specific challenges, than process or quality issues.”

Others disagree on the effect of the quality issues, which take on extra importance when they affect product safety and reliability. Hank Cox, senior media strategist for the **National Association of Manufacturers (NAM)**, Washington, D.C., says that while many companies have profited by moving manufacturing to China, numerous others have encountered problems with quality and reliability. Now, with labor costs rising in China and shipping costs also going up, a growing number of U.S. manufacturers are, if not moving back to the U.S. completely, at least hedging their bets by bringing some production back. Barbara Roberts, president and CEO of **Wright Engineered Plastics, Inc.**, a Santa Rosa, California injection molding firm that makes parts for the medical and telecom industries, among others, confirms that quality issues are “common and difficult to handle.”

“We have one customer who has come back to the states with his parts, which were crumbling and cracking,” she said in an interview. “They were clearly not manufactured from the

material they had specified. These were medical parts, so poor quality wasn’t acceptable.” Another customer, CP Lab Safety, recently returned its manufacturing to the U.S. after reportedly experiencing quality problems in China, where it had been manufacturing its line of 80 products for more than seven years. The company makes environmentally benign laboratory safety products, including the ECO Funnel™, which is used on common laboratory waste containers to prevent hazardous and toxic chemicals from polluting laboratories and threatening the health of laboratory workers. Wright Engineered Plastics has also started making plastic components for JDS Uniphase (JDSU), a large telecommunications firm that recently brought some manufacturing work back to the San Francisco Bay area after having previously outsourced to a factory in China.

Today, official statistics on anything approaching a reversal of the offshoring trend—including the number of companies that have brought their manufacturing operations back to the U.S. or the amount of time and money saved by such a move—are hard to come by. Cox said that NAM doesn’t have any of this type of data, but it does have “anecdotal evidence here and there of companies bringing work back.” Reasons cited by the returning companies range from the rising costs of production in China, to high transportation costs, financing issues, intellectual property concerns, supply chain logistics, and the even thornier issues of product quality and safety.

Companies that have pulled back their offshore work include Exxel Outdoors, a maker of upscale camping equipment that brought back the manufacture of high-end sleeping bags to its plant in Haleyville, Ala.; Firestone Home Products, a Burnsville, Minn., maker of high-end outdoor furniture and gas grills that’s returning 25 percent of its manufacture to the U.S. from China; and ACE Clearwater Enterprises, a Torrance, Calif., maker of complex formed and welded assemblies, mostly for aerospace and energy generation. ACE Clearwater, Cox said, has seen a significant amount of work coming back from Hungary and China mainly because of quality control issues. “Their customers need precise tolerances and have had trouble getting the quality they need overseas, and are willing to pay a bit more for quality here. The company has gone from about 160 employees to about 240 today and is looking to hire more.”

MANEX Vice President Jonathan Lee says that the reversal trend is still too small to have benefitted either the San Francisco Bay Area or the U.S. at large. But he offered an example indicating that OEMs may be willing to pay higher costs for U.S.-produced parts and services if suppliers can show them a sufficient return on their investment.

“We have seen an industrial equipment manufacturer change its procurement strategy to source only within the U.S., in fact, only locally,” he said. “They found that the cost of materials was a tiny fraction of their product cost (less than 10%), and that most of the assembly work had to be performed here anyway. The overseas manufacturer provided materials at 40% less, but this would only reduce the total product cost by about 4%. Meanwhile, the benchmark assessment report that MANEX performed for them showed they could charge up to 12% more by reducing their lead times from 60-plus days to less than 21,” he continued. “This could only occur if all sourcing was done locally. Increasing their pricing by 12%, even with a 4% increase in costs, was a very fair trade-off in their mind. Meanwhile, their customers are happy and this change was considered very successful.”

With all the offshoring that's occurred in the last decade, NAM's Cox believes it's important to keep the issue in perspective. He acknowledges that China is a rising manufacturing powerhouse. But although it's easy to see the "Made in China" label on stuffed toys, he reasons, it's a little more difficult to see the "Made in the USA" label on satellites circling overhead. "We need to keep in mind that China ranks third among world manufacturing nations," he stated. "Japan is second; the U.S. remains number one and will be for the foreseeable future. We dominate the high end of manufacturing in the more advanced industries."

In the late '90s, many OEMs that decided to take their design work overseas were lured by the disproportionately low hourly rates for drafting work, which averaged about \$40 per hour less than in the U.S., according to Marco Arnone, executive vice president and general manager at **Enser Corporation**, an engineering services firm based in Cinnaminson, New Jersey. But a substantial number of companies that based their decision purely on financial reasons didn't see the hidden costs that made the entire process of moving a product to market more time-consuming and expensive. Those who believed the work would be straightforward, without a lot of complications, were often disappointed because "there's a lot more to it," according to Arnone. "The CAD drawing is what they're going to manufacture from, so if that drawing is not correct, they're going to pay for it on the manufacturing end," he says. "So the drafting and the design work is very critical to the whole process."

"Initially, when this all started happening in the late 1990s, the hourly rates that the offshore companies were charging

OEMs were about \$7 for drafting, and maybe \$13 for design and engineering drawings," Arnone continued. "In the states, at that time, rates were probably \$40 to \$50 per hour. All the OEM's purchasing people were looking at were the hourly rates. Eventually, the foreign workers started getting more experienced, and then their rates started going up, little by little. Then their costs went up to \$35 to \$40 per hour. So then the rate factor wasn't as big of a gap as it was 15 years ago."

Arnone says that quality has been a "big time" issue with overseas work, for designers and manufacturers. Overseas contract manufacturers, he said, "do OK with the commodity work that is less precise, but they're still having problems with the precision work." He believes that the inferior work being generated overseas has been a key factor in OEMs' decisions to bring manufacturing back to America. "After the OEMs got their jobs back from overseas, there was a lot of rework," he said. "So their engineering group would have to review all the drawings, make corrections, and then send them back. When they came back the second time, they would have to be reviewed and corrected again, and then sent back a third time. What no one was tracking was all the time that their engineering department was using to do all this stuff. As time went on, they started realizing that they were spending a lot of time with all of the extra work."

Another factor contributing to a possible reversal of the offshoring trend is a company's risk of having its intellectual property infringed overseas. According to Arnone, cases have been reported in which OEMs have sent work overseas and then, within a month or two, have seen an exact replica of their product out in the marketplace, competing with the original. In one

example, he said, representatives of an overseas manufacturing company visited the booth of an American vendor at a tradeshow. The visitors reportedly asked the vendor numerous questions, helped themselves to his brochures, and took pictures of parts on display. Within two months, they had made an exact replica of his product, according to Arnone.

“We’ve never had any loss of intellectual property with our work, but we’ve heard this numerous times from our clients,” he affirms. Once the work goes overseas, you can lose the intellectual property, and then you’re in trouble. You have no control over it once you lose it because they don’t have copyright laws in any of these countries overseas. There are no repercussions; you can’t do anything about it.”

Yet another issue that has prompted the return of contract manufacturing work to the U.S., Arnone says, is what he describes as “the large turnover of staff members” at overseas companies. “The OEMs had to repeatedly get new staff members up to speed on their business and products,” he says. “This was also something that they didn’t factor in, so it was taking them longer to get their work because they were constantly training people.

“These are some of the things that we’ve seen throughout the years,” he summarizes. “A lot of these large companies had a lot invested in doing the work overseas. They just weren’t really paying attention to all of these factors.” Once the offshoring decisions were made by OEMs, however, they weren’t so easy to reverse. “Because they were so embedded in it, it was tough to make the decision to just turn it off and bring it back, because they didn’t have the resources to do it back in the states,” Arnone

says. “You have to staff up and have the equipment and resources to do the work back at home.”

NAM’s Hank Cox agrees. “A company that has moved all of its production offshore cannot easily bring work home,” Cox wrote in an email to *Design-2-Part*. “It would have to start from scratch to acquire space and labor. But a company that keeps some operations here finds it relatively easy to ramp up production on the home front while reducing output in China or another foreign country.”

According to Arnone, OEMs have been bringing work back home for “the past couple of years,” but with greater frequency in the last year. And just as decisions to outsource overseas were based largely on cost, so too are many of the decisions to return to U.S. shores. “We’ve had about four companies come back so far, in the past two years,” he recalls. “Basically, they’re saying that cost-wise, they’re seeing about a 20% savings in costs. And in terms of time spent on projects, they’re seeing about a 20% to 25% time savings. These are big savings in time and costs for them, especially when companies want everything just-in-time. There’s so much pressure nowadays to get the product into the market.

“We have one Fortune 500 client that went overseas—we can’t use their name—that decided to compare the costs of working stateside versus overseas. They ran a design and engineering project internally and sent the same project overseas; no one but they knew what they were doing. They kept track of every hour of each project, and found out that it was cheaper to have the work done in the states. Plus, the delivery times for the design work were cut drastically.”