

# Compete Successfully In A Global Economy



We are all faced with many changes in manufacturing today. The global economy is probably one of the most challenging marketplaces to succeed in, as many times the competition is unknown. When an order doesn't come through and you probe to find out why, you are told that your price is three times higher than the competitor's. Often, the competitor's bid will not even cover the cost

of raw material expense.

There are ways to compete in the global economy, but we need to change our strategy. Most of the global competitors have one major advantage—cheap labor. This includes the countries of Mexico, China, India, Turkey and others. Currently the U.S. has a high labor cost and shrinking labor pool. This has occurred for more than the past 10 years. We may never know why, but we must work together to find a solution.

The jobs that are here and should stay here are high precision, tight tolerance and of tough materials. Perfect examples of applications we can compete well with include low volume, complex parts in the medical industry such as exotic stainless steels, titanium and cobalt chrome materials. The aerospace industry is another area where we should be able to compete with any country. We have the tools and the technology to meet these challenges and must use them to our advantage. However, our manufacturing methods must continue to change and adjust to meet global competition.

The machine tool industry has the products and technology we require. For example, there are high precision, multi-spindle, and multitasking turning centers. These machines not only turn with high precision, they drill, solid tap, thread mill, pinch turn and more. You can have three tools in the cut at one time, which greatly reduces the cycle time. Technology is also allowing milling machines with 3,000-rpm-rotating workholding spindles to do turning operations. So we have lathes that can mill and mills that can turn. In short, we have at hand the technology to be globally competitive.

However, the manufacturing process must change. We can no longer have three to four machines in a line or in a small cell producing a single part. This is

manpower intensive, difficult for production control, has too much work-in-process and produces a high scrap rate. A manufacturing process that can drop a part complete from one machine will increase efficiency, produce better quality, reduce cycle time and use less manpower. There will be no work-in-process: The part comes off complete. Simply wash, pack and ship that day's production. Increased throughput will also increase cash flow. With the cost of raw material today, the faster you can turn it into finished goods, the better for your bottom line.

In a simple, real world example, manufacturing a part across three machines takes 15 minutes. This results in four parts per hour. At a shop rate of \$70 per hour, the part would cost \$17.50 to manufacture. The same part in a multitasking machine takes 6 minutes to make. So at 10 parts per hour with the same \$70 rate, the part cost is \$7 to manufacture. If you sell the part for the same price of \$17.50, you are making \$175 per hour. You cover your rate of \$70 while you make an extra \$105 per hour. With margins like these, how can you afford to not step up to new technology?

To maximize profits even further, when manufacturers can reach "lights out," untended operation, manufacturing costs are even lower and profit higher using simple automation such as magazine bar feeders, multi-pallet machines and robotics. Untended running is much more feasible today. The machine tool manufacturers are supplying software features like tool load monitoring and tool life management to make "lights out" or untended running highly successful.

I believe the answer for the United States is technology. We need to use our American ingenuity and drive to continue to make the United States the global competitor we have historically been.

More than 30 years ago, the first NC machine was introduced. Some manufacturers did not see the advantages to this technology and continued on the traditional, manual way. The ones who embraced newer technology became more competitive and profitable. Those who did not are no longer in business. Today we are at this same crossroad, and we must embrace new technology to carry us to new levels of productivity and profitability.

I suggest a visit to IMTS 2008 or PMTS 2009. Bring your current projects, talk to applications engineers and see, first hand, the technology that can carry you and your company into the future. ■