



Refreshing *the* **WORKFORCE**

As the recent reshoring trend unfolds and the need for skilled workers increases, how do you prepare the next generation of workers? Here's a look at a program in Long Island, New York, that combines apprenticeship with mentoring to develop the workers of tomorrow.

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ISTORY SHOWS THAT COUNTRIES THAT EMBRACE MANUFACTURING tend to lead the world economy, and that has certainly been the case for the United States, where manufacturing has been a main economic keystone. But in recent years lower costs and cheaper labor

have lured manufacturers to move their operations beyond the U.S. borders. For the U.S. to grow its manufacturing base and remain competitive in the global economy, it's paramount that we bring manufacturing back to our shores. And we are. The question is: who will work on our shop floors of the future?

Back In the USA

Back in the 1980s, manufacturing was considered a good career for 18 million workers, according to the January edition of *Industry Week*. Fast forward to 2013, and that number has shrunk to 12 million as plants have shut down and manufacturing operations have been offshored to countries offering cheap labor that manufacturers believed would make these operations more profitable.

However, the tide began to turn three

years ago as manufacturers began to realize that the costs of offshoring are not that much different than manufacturing in their own U.S. backyard—now that the standard of living is rising in those offshored countries and workers there are starting to clamor for higher wages to buy the same products and services we in the U.S. enjoy.

Now companies like GE and Whirlpool are opening plants to manufacture appliances right here in the U.S. The automotive industry also is experiencing a renaissance of manufacturing. Whether you believe the auto industry bailout was a good or bad thing for the country, the current economic outlook for the automotive industry is positive: GM has announced that it is investing nearly \$1.3 billion in U.S. manufacturing sites, and Ford has recently committed \$1.1 billion



A robust apprenticeship-mentoring program will close the skills gap by training mentees in the skillset their future employer will require.

to retool and expand one of its U.S. assembly facilities. As a result, both GM and Ford are looking to hire thousands more workers in 2014.

Apple, which is starting to assemble its iMacs in the United States, is on the reshoring trend, as is Motorola, which has started to manufacture cellphones domestically. Five years ago, this would have seemed counterproductive in terms of both profitability and customer service. So why reshore now? Will the closer controls, better communications, and ability to respond more quickly to customer demands enable companies to be more agile to meet the needs of today's markets? Well, yes!

And there's a public relations benefit as well. ABC World News's "Made in America" segment showcases companies that are manufacturing their products in the U.S., and is exhorting the audience to buy U.S.-made products to help those businesses grow and expand hiring. The result? The public has become more aware of the connection between where the products they use are made and manufacturing's impact on local economies—including jobs. Those who are finding good-paying and rewarding manufacturing careers are bringing home robust paychecks, and the taxes they pay each week help the U.S. However, finding the right workers for today's reshored manufacturing plants may be more challenging than you'd think.

Workers Wanted

The replacement pool for today's retiring Baby Boomers is thin to nonexistent due to a terrible job of branding manufacturing careers to young people. Instead of thinking of manufacturing as an interesting, valuable, rewarding,

and financially pleasing career path where they will use innovative processes, products, and technologies, young people have a dark, dank, very unappealing image of what it means to work in manufacturing. Compounding the problem is a scarcity of trade and vocational schools, which makes it difficult to find learning institutions willing to support classes related to manufacturing.

On the bright side, President Obama in the past year has introduced legislation that supports manufacturing degree programs in community colleges. As a result, Pathway to Technology (P-Tech) grants have been awarded to schools and communities willing to incorporate manufacturing curricula in their schools.

Companies also are holding on-site virtual classes where employees can take courses to improve their skill sets on their own schedules. Companies also are partnering with local colleges. An article in *Industry Week's* January 2014 edition states that GE is partnering with Lake Land College to tailor courses to GE's needs that are offered on site before and after shifts. This sort of partnering between colleges and manufacturing companies will help to reduce the skills gap.

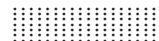
Developing an Apprenticeship Program

In addition to formal education and training, another way to close the skills gap is a robust apprenticeship-mentoring program that will train mentees in the skill sets their future employer will require.

Take as an example a project in the city of Long Beach, N.Y., that has been developed by local manufacturing companies, professional organizations, the Long Island Mentoring Partnership, Long Beach



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High School, and Farmingdale State College. Spearheaded by JJKT Consulting and DMMSI Corporation, the program consists of an apprenticeship-mentoring program designed to close the skills gap and meet the needs of the local manufacturing industry on Long Island, and to develop opportunities for those new to manufacturing and for women in manufacturing, all the while keeping these skill sets on Long Island.

The program was created to enable students in grades nine through 12 to learn a manufacturing-related skill that will allow them to either go on to post-secondary school, or to prepare to be employed in the manufacturing industry in the Long Island region. Graduates learn the latest manufacturing-related technologies while earning the required New York State Regents credentials. The manufacturing-major courses taken at Long Beach High School are aligned with the curriculum offered by Farmingdale State College's Manufacturing Engineering Technology's department. Long Beach High School students receive college credit for their work.

The program has not been without challenges. For example, Hurricane Sandy devastated the metal shop at Long Beach High School, but Arkwin Industries stepped in to donate two CNC machines to replace and upgrade the machine assets so that the metal shop can provide its students with hands-on experience. In addition, MSC Direct has donated a host of machines and equipment to the school.

To enhance the curriculum available to

Long Beach High School students, the Mori Seiki DMG University has made available 150 virtual introductory machining courses. In addition, more advanced versions of these virtual courses are available to associates program students at Farmingdale State College. This effort aligns courses in both schools.

Arkwin Industries, Farmingdale State College, Long Beach High School, Mentoring Kids Long Island, and the APICS New York City-Long Island Chapter believe that it is in the best interest of the Long Island's manufacturing industry to provide a pathway for students to gain the needed skill sets for employment in manufacturing on Long Island.

Add In the Mentors

It has been long established that a strong apprenticeship-mentoring program can prepare students for a highly technical, hands-on career. With the apprenticeship program in place, all that is needed now is guidance by seasoned professionals who can help bridge the gap from school education to the world of work in a manufacturing company.

Enter the Baby Boomers who are currently employed by or recently retired from Long Island manufacturers. We developed a "succession plan" in which these professionals take on a mentor's role: knowing who the students are, what course of study they are taking, and how to guide students to use what they learn to prepare for a successful career in manufacturing on Long Island. The mentoring portion of the program also is designed to address the needs of the underserved and underprivileged population of the city of Long Beach so that they, too, can be productive assets to the community.

Within the next three to five years, we

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expect a large portion of current Long Island manufacturing employees will be retiring so it is never too early to start ensuring that Long Island has a pool of skilled personnel to take their place when the time comes. We are planning to establish a database of available retirees so that we will be able to more easily call upon these talented and experienced individuals to serve as subject matter experts and mentors for the next crop of manufacturing professionals.

We believe it is essential to have a program like this that will enable us to provide, within the local area, the right people and skill sets manufacturers need to compete globally while maintaining manufacturing on Long Island. What we don't want to do is to train, then lose, the next generation of manufacturing workers to other regions.

We need to first stop the bleeding, and then grow the labor pool so that we can train and retain those with the "right stuff" here in Long Island. We believe that programs like the one outlined, where mentors and others show these individuals how to have a successful career in manufacturing in the Long Island region, can influence graduates to stay. But the program is just the start. We

also need to hold constructive discussions with educators, industry leaders, and government officials on how we can work together to find practical ways to keep young adults from leaving the Long Island region.

Manufacturing has been a major driving force in the Long Island region for the past 50 years—we are considered the capital of the defense industry by some. Although manufacturing has somewhat fallen out of favor, there are still more than 3,500 manufacturing companies on Long Island that contribute over \$20 billion to the Long Island region.

A program like the Manufacturing Apprenticeship-Mentoring Program that is being established in the city of Long Beach will make a difference—and manufacturing in the Long Island region is counting on it. **M**

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