



Cultivating the Next- Generation Workforce



By John F. Birmingham, Jr.

*Finding solutions to one of
manufacturing's most vexing
challenges: a plethora of positions
going unfilled due to a dearth of
qualified candidates.*





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TTENTION JOB SEEKERS: PLENTIFUL GOOD-PAYING and challenging positions are now available in a sophisticated work environment at a hub of cutting-edge technology. Why? Because so few qualified candidates exist. That's the dilemma facing today's advanced, next-generation American manufacturers. While leading in-

novation and creating smarter ways to make existing products—as well as developing totally new products never before imagined in technology, medicine, tooling, 3D printing, and more—manufacturers face a daunting task in finding good workers to execute this manufacturing revolution.

The good times have never been better for career opportunities in manufacturing.

Technology-intensive and dynamic, advanced manufacturing enterprises require highly skilled workers to perform at elevated levels and compete globally. However, from the factory floor to the executive offices, the quest for human capital has never been more challenging—or so it seems. Yet, like most business problems, once the problem is defined, a solution is not far away.

Teach Your Children Well

The resurgence of U.S. manufacturing—not widely predicted—now ranks as a leading path to prosperity for the youngest of the U.S. workforce, although few realize it. Several events, in hindsight, have created our qualified candidate shortage—and a perfect human-resources storm for employers.

During the past 15 to 20 years, with the surge in manufacturing offshoring, the message to young people entering the U.S. workforce was, “Look elsewhere.”

Parents, guidance counselors, the media, and others were solidly in the camp that believed bright, educated, and talented young people don't choose a career in manufacturing. It's old and dying, behind the times, highly unionized, resistant to change, and even sexist.

U.S. educational institutions followed that line. They failed to envision an evolving and increasingly high-tech manufacturing sector for which young people needed to be extensively equipped. A lax attitude toward science, technology, engineering, and mathematics—STEM—education, along with a steady decline in sophisticated technical training programs and union apprenticeships, left a majority of the next generation unprepared.

However, while these influential voices kept the “manufacturing in the U.S. is dead” myth alive, manufacturers—without any long-term human capital strategy in play and without much immediate help from slowly awakening educational institutions—failed to raise the visibility and market the benefits of manufacturing careers. Employers now find themselves on an uphill climb to raise the bar in recruiting, retaining, and retraining and investing in a long-term human-capital strategy.

A Capital Investment

The workplace shortages that next-generation manufacturers face—workers needed to move industry forward in high-level engineering, design, and management, as well as production, quality control, and support roles—will not likely disappear without employers taking on more responsibility. Certainly, not all advanced manufacturing jobs require a four-year college diploma or advanced degree. In some cases the most appropriate training can come from community colleges, specialized programs, employer-based apprenticeships, or consortiums of manufacturers, among others. And just as employers in other sectors have learned, business today flourishes in collaborative enterprise.

Innovative, collaborative workforce programs can be found in dozens of states and regions where advanced manufacturing is economically vital—Michigan, California, Florida, Indiana, Illinois, and the Northeast, among others. The success is seen in a diverse contingent of students, male and female, ages 23 years to 64 years, who have launched new careers, many with no manufacturing experience prior to entering such programs.

For example, an eight-week boot camp held at Great Bay Community College in Portsmouth, N.H., led to 100 percent of its students being hired soon after or even during their accelerated advanced manu-

facturing studies program. The initiative, funded by a \$20 million Trade Adjustment Assistance Community College and Career Training grant from the U.S. Department of Labor's Employment and Training Administration, united seven community colleges, more than 100 industry partners, and state and federal agencies.

Similarly, the new \$148 million American Lightweight and Modern Metals Manufacturing Innovation Institute (ALMMII) will open in Detroit this fall. ALMMII is a collaborative public/private effort to support research, education, and the application of cutting-edge lightweight metals for use in tomorrow's cars, trucks, airplanes, and ships for both the commercial and military sectors. The institute expects to provide students with a seamless path from classrooms to careers.

While the future for collaborative educational initiatives looks bright, educating the next generation takes time and capital. But manufacturers should be encouraged. In the long-term view, investment in the education and training of current and future generations will most certainly reap substantial benefits.

Raising Up the Next Generation

Creating a flexible, high-energy work environment that encourages innovation, offers plenty of room for upward mobility and addresses

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generational changes will go a long way toward attracting and retaining key talent of all ages. The positive results for manufacturers can be significant. However, they should be prepared to make adjustments and take new precautions.

Recruiting the next generation starts with convincing new graduates that manufacturing is “cool” and offers a long-term career path. For example, today’s cars are all about technology and entertainment—environmentally friendly engines and the ability to connect to the Internet, get directions and more—not just better brakes or faster acceleration. And that’s what sells when recruiting the youngest of workers. In 10 years, cars that drive themselves may be common; that’s sexy—and safe. That’s what the new generation of workers wants to be involved in. Tell that story. Where, you ask? Social media.

Not only is it an important resource for advertising new positions, social media enables manufacturers seeking new talent to interact with prospects in meaningful ways. Younger people tend to make decisions collaboratively and are strongly influenced by their peers. Increasingly, they will communicate with each other about companies and opportunities through social media chan-

nels. A handful of employers are now experimenting with proprietary, dedicated websites for such activity, or they are forming groups within established networks like Facebook and LinkedIn to provide social interaction around their brands, with the goal to boost recruiting efforts. Interested candidates get a look at the employer and vice versa.

And while such recruiting methods have risen to necessity—some employers have concluded that social media is the essential corporate recruiting tool—they do not come without some risk. For example, protecting the corporate brand online is critical in these hyper-competitive times. One slip-up by a company, accidental or otherwise, can go viral and quickly taint the greater pool of candidates. Additionally, many states have now enacted laws that prohibit employers from asking candidates (and existing employees) for related account information such as user names, passwords, and the like. Opening up your company, your recruiting efforts, and your employees to risks of social media is not to be taken lightly.

One Size Does Not Fit All

A lot has changed in the workplace since the Silent Generation, those born between 1925 and 1945 who worked very hard and “kept quiet,” comprised the majority. For one, those workers typically went to work for a company and expected to stay there until retirement. But



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during the next two generations—Baby Boomers and Generation X—a more independent attitude evolved, thanks in part to corporate downsizing, outsourcing, and other economic and cultural changes. Few believed they would remain with one employer throughout their careers. Members of the current generation of working-age young people—the Millennials—simply know they will not.

This short-term attitude of the current generation is compounded by other demands; for this generation, one size does not fit all. Talented employees are demanding more flexibility in scheduling, work-life balance, advanced training, and opportunity for rapid advancement, all of which employers must offer in order to gain and retain their loyalty—at least for a while.

Young people are highly mobile in the job market today. Many would just as soon be unemployed as having to endure an unsatisfying job. And they will quickly jump ship to a competitor that is offering free sandwiches and gym memberships. Tech-savvy and accustomed to 24/7 mobile and Internet technologies, the typical Millennial will want to be able to work where and when they want to as long as they get the job done. Although not ideal for many manufacturing operations, such options should at least be offered by employers when feasible in order to attract younger employees—but with caution.

The wise employer will install ample security on hardware and software and do whatever else is necessary to ensure that trade secrets and other assets will not walk away with younger employees when they leave for another offer—because it is inevitable that they will. Thumb drives, cloud storage, and other means make it very easy to steal, exploit, or even sell company assets to the competition. A complete set

of employee guidelines and policies that clearly express the company's expectations, including any related to computer and social media usage, should be signed off on by all employees.

In general, employers whose operations are dependent upon technological improvements should require engineers, scientists, researchers, and any other employees who have access to and knowledge of their intellectual property—including proprietary software, procedures, client databases, supplier and sales information, and more—to sign non-competition, non-solicitation, and/or confidentiality agreements. If candidates or employees are unwilling to do so, employers are better off without them.

Highest and Best-Use Strategies

Maintaining the right balance of older and younger employees is important to corporate success. Well-managed corporations also rely on a blend of full-time employees, contingent workers, and outsourcing of entire operations.

“What we are seeing today in the advanced manufacturing environment is a push for the highest and best use of every employee, referred to as training-up,” explains Foley employment lawyer Bud Bobber. “So, for example, an employer might ‘train-up’ a production employee to perform routine preventative maintenance on the machines they operate in addition to their normal duties.”

According to Bobber, it is much smarter to train-up a production operator to put a preventative drop of oil on a moving part than to call in a highly specialized mechanic to perform low-level maintenance tasks. It eliminates production downtime and frees up dedicated maintenance engineers to focus on

“Manufacturers need to get the word out about career opportunities, do a better job at branding those careers, and employ new 21st century retention and retraining tactics.”

larger tasks. Up-training gives the employee new skills, which come with a new title—e.g., machine operator mechanic—and a new pay grade. In addition to filling gaps where worker shortages may exist, stretching responsibilities for existing employees can result in a more engaged and re-energized worker. It would appear to be a win-win for everyone. But not always so, reports Bobber.

“Unfortunately, reality does not always live up to the promise,” says Bobber. “The resistance to change can be strong, especially in unionized workplaces where seniority rules and a culture of comfort pre-

vails. When a person has deliberately opted for a traditional production job, they may be unwilling to train-up, even for higher pay. Such attitudes, along with union representatives who are there to help employees resist and block that change, can quickly derail a program.”

But even in non-union environments, employers are learning that generational issues can impact their ability to make an experienced workforce more multifunctional. Technology, for example, essential to advanced manufacturing, is one area where senior employees may be reluctant to adapt.

At a certain point, some employees are just not willing to or lack the capacity to learn, absorb, and apply new skills. When manufacturers look for the people who are

fertile ground—those who are going to best embrace the investment they’re making in technology—they understand it is probably not the 30-year employee. Although a senior workforce may resist change, employers cannot legally make decisions based on age.

“No matter how inconvenient to the employer whose employee refuses to learn new skills, it is not a defense to age discrimination,” says Bobber. “Employers have to respect the existing and high senior employees despite what social science and experience confirms—a generational reality exists.”

However, that does not mean that manufacturers should give up on trying to create an adaptable, multifunctional workforce. Com-

Scouting International Talent

Alan Seagrave, a Foley business immigration attorney focused on manufacturing and IT human capital acquisitions, suggests that employers’ best bet when expanding their search internationally is to first look at the talent coming through U.S. colleges and universities, especially in the STEM fields.

“It’s relatively easy to find foreign students who are eligible to work—most qualify for special work authorization after completing their degree program—and this can be converted to a new visa status at a later period,” explains Seagrave. “This cures obstacles—namely timing and competition in attaining employment visas—because the greatest challenge for employers looking to recruit overseas talent is the lack of available visas when they want them. Securing the basic H-1B visa for foreign professionals is a combination of timing and luck. It can be brutally hard to manage and discouraging when the long process does not result in a new employee. What manufacturers in the U.S. can’t do, but would love to, is bring in skilled workers for jobs considered trades.

It’s virtually impossible to obtain a visa for that type of work.”

H-1B visas for professionals are available only at certain times each year. Because they are overused, the rate of availability is about two to one. The employer first has to find the right person, then negotiate terms and secure the employment contract before making application. After that, it all comes down to luck—the H-1B visa is awarded by lottery.

The L-1 visa provides for intracompany transfer, where a person who is currently employed abroad for a company or an affiliated branch may fill an open position in the U.S. for the same company or another affiliate. Employers with a global workforce that recruit within their own ranks enjoy fairly easy access to the L-1 visa.

At the top of the line is the O-1 visa, available for those who have extraordinary ability in the sciences, arts, education, business or athletics and can demonstrate sustained national or international acclaim. The O-1 is for the cream of the crop. And while this type of visa is readily available, the competition for those who qualify is fierce.

