

JOEL KOTKIN

## Wanted: Blue-Collar Workers

*Who will power America's new industrial revolution?*

Autumn 2011



GAYLON WAMPLER/CORBIS

The natural-gas boom is generating demand for skilled labor across the Midwest.

To many, America's industrial heartland may look like a place mired in the economic past—a place that, outcompeted by manufacturing countries around the world, has too little work to offer its residents. But things look very different to Karen Wright, the CEO of Ariel Corporation in Mount Vernon, Ohio. Wright's biggest problem isn't a lack of work; it's a lack of skilled workers. "We have a very skilled workforce, but they are getting older," says Wright, who employs 1,200 people at three Ohio factories. "I don't know where we are going to find replacements."

That may sound odd, given that the region has suffered from unemployment for a generation and is just emerging from the worst recession in decades. Yet across the heartland, even in high-unemployment areas, one hears the same concern: a shortage of skilled workers capable of running increasingly sophisticated, globally competitive factories. That shortage is surely a problem for manufacturers like Wright. But it also represents an opportunity, should Americans be wise enough to embrace it, to reduce the nation's stubbornly high unemployment rate.

Driving the skilled-labor shortage is a remarkable resurgence in American manufacturing. Since 2009, the number of job openings in manufacturing has been rising, with average annual earnings of \$73,000, well above the average earnings in education, health services, and many other fields, according to Bureau of Labor Statistics data. Production has been on the upswing for over 20 months, thanks to productivity improvements, the growth of export

markets (especially China and Brazil), and the lower dollar, which makes American goods cheaper for foreign customers. Also, as wages have risen in developing countries, notably China, the production of goods for export to the United States has become less profitable, creating an opening for American firms. The American Chamber of Commerce in Beijing expects China's "low-wage advantage" to be all but gone within five years.

It's also true that American industry hasn't faded as much as you might think. Though industrial *employment* has certainly plummeted over the long term, economist Mark Perry notes that the U.S. share of the world's manufacturing output, as measured in dollars, has remained fairly stable over the last 20 years, at about one-fifth. Indeed, U.S. factories produce twice what they did back in the 1970s, though productivity improvements mean that they do it with fewer employees. Recent export growth has particularly helped companies producing capital equipment, such as John Deere and Caterpillar, and many industrial firms are even hiring more people for their plants, especially in the Midwest, the Southeast, and Texas.

One area in which industry is positively roaring: firms that service the thriving oil and natural-gas industries, from Montana and the Dakotas to Pennsylvania. In Ohio alone, there are already 65,000 wells, with more on the way, says Rhonda Reda, executive director of the Ohio Oil and Gas Energy Education Foundation—while a new finding, the Utica shale formation in eastern Ohio, could hold more than \$20 billion worth of natural gas. As a result, Karen Wright's business—selling compressors for natural-gas wells—has been soaring, leading her to add more than 300 positions over the past two years. "There's a huge amount of drilling throughout the Midwest," Wright says. "This is a game changer."

Wright isn't alone. Firms throughout the Midwest are moving aggressively to meet the demand for natural-gas-related products. Take the \$650 million expansion of the V&M Star steel mill in Youngstown, Ohio, which builds pipes for transporting gas. The expansion will add 350 permanent jobs to the factory after it's completed next year.

As the natural-gas boom continues, it could have another effect beneficial to industry: keeping energy prices low, which will give American manufacturers a leg up on their global rivals. Companies in the business-friendly midwestern and Plains states will profit the most, while New York and California—though each has ample fossil-fuel resources—will probably be too concerned with potential environmental problems to cash in.

**T**he industrial resurgence comes with a price: a soaring demand for skilled workers. Even as overall manufacturing employment has dropped, employment in *high-skill* manufacturing professions has soared 37 percent since the early 1980s, according to a

New York Federal Reserve study. These jobs can pay handsomely. An experienced machinist at Ariel Corporation earns over \$75,000, a very good wage in an area where you can buy a nice single-family house for less than \$150,000.

A big reason for the demand is changes on the factory floor. At Ariel, Wright points out, the operator of a modern CNC (computer numerical control) machine, which programs repetitive tasks such as drilling, is running equipment that can cost over \$5 million. A new hire in this position must have knowledge of programming, metallurgy, cutting-tool technology, geometry, drafting, and engineering. Today's factory worker is less Joe Six-Pack and more Renaissance man.

So perhaps it isn't surprising that American employers are hard-pressed to find the skilled workers they need. Delore Zimmerman, the CEO of Praxis Strategy Group (for which I consult), observes that this shortage extends to virtually any industrial operation. In his hometown of Wishek, North Dakota, whose population is just 800, one company making farm machinery has 17 openings that it can't fill. Skilled-labor shortages grip the whole of this energy-rich state. Demand for skilled workers in the North Dakota oilfields—from petroleum engineers to roustabouts—exceeds supply by nearly 30 percent. The shortage of machinists is 10 percent. “The HELP WANTED signs in North Dakota are as common as FOR SALE signs in much of the rest of the country,” Zimmerman reports.

“There are very few unskilled jobs any more,” says Wright. “You can't make it any more just pushing a button. These jobs require thinking and ability to act autonomously. But such people are not very thick on the ground.” Among the affected industries will be the auto companies, which lost some 230,000 jobs in the recession. David Cole, chairman of the Center for Automotive Research, predicts that as the industry tries to hire more than 100,000 workers by 2013, it will start running out of people with the proper skills as early as next year. “The ability to make things in America is at risk,” says Jeannine Kunz, director of professional development for the Society of Manufacturing Engineers in Dearborn, Michigan. If the skilled-labor shortage persists, she fears, “hundreds of thousands of jobs will go unfilled by 2021.”

**T**he shortage of industrial skills points to a wide gap between the American education system and the demands of the world economy. For decades, Americans have been told that the future lies in high-end services, such as law, and “creative” professions, such as software-writing and systems design. This has led many pundits to think that the only real way to improve opportunities for the country's middle class is to increase its access to higher education.

That attitude is a relic of the post–World War II era, a time when a college education almost guaranteed you a good job. These days, the returns on higher education, particularly on higher education gained outside the elite schools, are declining, as they have been for about a decade. Earnings for holders of four-year degrees have actually dropped over the past decade, according to the left-of-center Economic Policy Institute, which also predicts that the pattern will persist for the foreseeable future. In 2008, more than one-third of college graduates worked at occupations such as waiting tables and manning cash registers, traditionally held by non–college graduates. Mid-career salaries for social work, graphic design, and art history majors are less than \$60,000 annually.

The reason for the low rewards is that many of the skills learned in college are now in oversupply. A recent study by the economic forecasting firm EMSI found that fewer computer programmers have jobs now than in 2008. Through 2016, EMSI estimates, the number of new graduates in the information field will be *three times* the number of job openings.

There’s a similar excess of many postgraduate skills. Take law, which flourished in a society that had easy access to credit. Now, with the economy tepid, law schools are churning out many more graduates than the market wants. Roughly 30 percent of those passing the bar exam aren’t even working in the profession, according to a survey by the National Association for Law Placement. Another EMSI study indicates that last year, in New York State alone, the difference between the number of students graduating from law school and the number of jobs waiting for them was a whopping 7,000.

The oversupply of college-educated workers is especially striking when you contrast it with the growing shortage of skilled manufacturing workers. A 2005 study by Deloitte Consulting found that 80 percent of manufacturers expected a shortage of skilled production workers, more than twice the percentage that expected a lack of scientists and engineers and five times the percentage that expected a lack of managerial and administration workers. “We don’t just need people—we need people who can meet our standards,” worries Patrick Gibson, a senior manufacturing executive at Boeing’s plant in Heath, Ohio.

**S**ome of Gibson’s fellow manufacturers blame the shortage of skilled workers on the decline of vocational education, which has been taking place for two decades now. Such training is unpopular for several reasons. For one thing, many working-class and minority children were once steered into vocational programs even if they had aptitude for other things, an unfair practice that many people haven’t forgotten. Today’s young people, moreover, tend to regard craft work—plumbing, masonry, and carpentry, for instance—as

unfashionable and dead-end, no doubt because they've been instructed to aspire to college. "People go to college not because they want to but because their parents tell them that's the thing to do," says Jeff Kirk, manager of human relations at Kaiser Aluminum's plant in Heath, Ohio. "Kids need to become aware of the reality that much of what they learn in school is not really needed in the workplace. They don't realize a pipe fitter makes three times as much as a social worker."

Fortunately, there are signs that some schools are getting that message and passing it along to their students. Funded by industry sources, the Houston Independent School District's Academy for Petroleum Exploration and Production Technology trains working-class, mostly minority high school students in the skills they'll need to perform high-wage industrial jobs. Tennessee—like Texas, a growth-oriented state—has developed 27 publicly funded "technical centers" that teach skills in just months and carry a far lower price tag than a conventional college does.

Two-year colleges will be crucial to the effort to train skilled workers. One of these schools, Central Ohio Technical College, has recently expanded by 70 welding students and 50 aspiring machinists per year. Many of the college's certificate programs are designed and partly funded by companies, which figure that they're making a wise investment. "You have a lot of people sitting in the city doing nothing. They did not succeed in college. But this way, they can find a way up," says Kelly Wallace, who runs the college's Career and Technology Education Center.

Such shorter educational alternatives will become ever more important as industrial workers retire. The average skilled worker in the industries supplying the gas boom is in his mid-fifties. "At our plant, you have lots of people with 20 to 30 years' experience," says Kirk, who has three high-skill openings that he can't fill. "But there's no apprenticeship program—no way to fill the future growth. We are simply running out of people."

New programs may not produce enough graduates to fill all these openings. But Karen Wright, at least, suspects that more young people will start looking for careers that offer them the prospect of a decent living and less debt. This may not be the postindustrial future envisioned by Ivy League economists and Information Age enthusiasts. But it could spell better times for a country in sore need of jobs.

*Joel Kotkin is a Distinguished Presidential Fellow at Chapman University in Orange County, California.*

[http://www.city-journal.org/2011/21\\_4\\_skilled-labor.html](http://www.city-journal.org/2011/21_4_skilled-labor.html)