



Automation In Manufacturing & Distribution: Are Job Cuts The Future?

By Rick Schreiber

We're at the onset of the next big industrial revolution—and the widespread adoption of new technologies, including Internet-connected devices, machine learning and robotics in the manufacturing industry. Strides in automation have significantly boosted U.S. manufacturers' output in recent years, and the industry is just beginning to understand and exploit the full potential of technology and disruptive supply chain models to reinvent manufacturing as we know it.

And the future of American manufacturing jobs at the end of this evolution? They're going to look very different.

The new administration is focused on American jobs lost to offshoring and relatively cheap foreign labor, but over the long run, automation technologies are set to replace far more U.S. manufacturing positions. The new Treasury Secretary Steven Mnuchin isn't concerned, and was recently quoted saying, "I think that is so far in the future [...] I think we're, like, so far away from that that. [It's] not even on my radar screen."

But we're already seeing it happen. A report from Ball State University found between 2006 and 2013, trade accounted for just 13 percent of lost U.S. factory jobs, while the vast majority of the lost jobs were taken by robots and other domestic factors. But in the same breath that we talk about the elimination of manufacturing and distribution positions, we also talk about a shortage in technology talent. The reality is companies are hiring—but they're hiring for different skillsets than they were even five years ago. Today's—and tomorrow's—[advanced manufacturing jobs](#) demand a greater emphasis on technological savvy, ingenuity and engineering skills that can't be replicated by a machine—yet.

At the same time, public perception of manufacturers' staffing decisions is changing, triggered by recent high-profile negotiations between manufacturers and the government. The unprecedented use of the Twitter "bully pulpit" to influence corporate decision-making could change the way companies approach and communicate about staffing. The balancing act between reputation management and the need to compete effectively in a global economy could grow more delicate. Still, while layoffs and closures, like those underway at several prominent Indiana factories that plan to move production

to Mexico, are [front and center](#) in the nation's collective attention, there are fundamental and permanent changes altering the nature and core capabilities of manufacturing and distribution jobs that have nothing to do with location or immigration status.

On the distribution side, several autonomous vehicle startups are targeting the trucking industry, which they see as ripe for disruption, according to [The Wall Street Journal](#). While the application of autonomous technology into everyday cars for consumer use is drawing far more attention and hype, artificial intelligence experts believe the technology could master highways before city streets. The trucking industry faces a shortage of experienced, safe drivers, as well as heightening regulation limiting the hours those drivers can work in a day. If automation can increase the speed and efficiency with which products can travel and enhance roadway safety, it could be a boon to the industry. However, it's worth noting this progress is not without setbacks and challenges. Additional technological advancements will be needed to address safety concerns critical to market acceptance of these technologies before car or truck automation goes commercial.

In sectors serving the food and consumer products, we're seeing many manufacturers reevaluate their distribution models as consumer shopping habits change. Simultaneously, pressures to reduce operating expenses have increased. As a result, those industries are moving from direct store to centralized distribution and real-time inventory management, which allows order points to be less tied to warehouse inventory levels and more responsive to demand.

Not only does this enable companies to cut logistics costs and take advantage of efficiencies of scale, but



they can also better compete with e-commerce retailers, online grocers and other alternatives that offer customers more choices, faster than ever before. Today's retail and manufacturing customers have little tolerance for delayed or incorrect orders, meaning logistics and distribution—from warehousing to order fulfillment to shipping—must happen at lightning speed and be resilient in the face of disruption. If automation can increase speed and reduce costs, while also maintaining order accuracy and quality control, it's a win-win for manufacturers and their customers. But these optimization strategies may result in closing factories that have been rendered obsolete, leaving the employees who work there in job limbo.

While staffing changes and layoffs may be par for the course during these transitions, long-term cost savings will ultimately come from increased productivity and greater operating efficiencies, which can be driven by a variety of factors. In fact, some of the companies that have been most successful at implementing process improvements have done so without significant layoffs. As the manufacturing industry takes the training wheels off new technologies, certain staffing strategies will remain consistent in ensuring profitability and competitiveness: Implementing and maintaining lean manufacturing principles, minimizing costly labor turnover and selecting staff with the right core capabilities will remain among the most important considerations.

The traditional factory job might be disappearing, but ultimately, greater productivity and lower costs translate into higher profit margins, resulting in more manufacturing jobs, not fewer.