



HELP WANTED:
**THE MANUFACTURING
HIRING DILEMMA**



TABLE OF CONTENTS

STATE OF THE MANUFACTURING INDUSTRY	4
INDUSTRY AND PRODUCT TRENDS	5
Automotive	5
Consumer and industrial products	6
Retail manufacturing	7
Food and beverage	7
Medical devices	7
Pharmaceuticals	8
TALENT PIPELINE OPPORTUNITIES	9
CONCLUSION	11
ENDNOTES	12

EXECUTIVE SUMMARY

Manufacturing continues to be a major driver of economic growth in the **U.S., generating more than 11 percent¹ of America's gross domestic product (GDP) in 2017.** However, as a host of fiscal, geographic and competitive issues challenge the industry, recruiting and retaining a sufficient workforce continues to be a major concern.

This white paper will examine trends in manufacturing and how they're affecting the hiring landscape. With a focus on areas including consumer products, automotive and pharma, Aerotek thought leaders will offer employers tips on creating an agile and responsive strategy to maintaining full employment.

STATE OF THE MANUFACTURING INDUSTRY

With \$6.2 trillion in annual revenue,² business is booming across the manufacturing industry today, fueled by a strong economy and steady demand for consumer and industrial products. But companies are also keeping an eye on potential obstacles, and making workforce plans for a future that could look very different.

Shallow labor pool

One of the most significant challenges facing manufacturers today is the industry's historically low unemployment rate, which hit 3.8 percent³ in July 2018. "In certain skill sets and regions, the unemployment rate could be even lower — as low as 1 percent," notes Aerotek Director of Business Development Mike Fitzgerald.

Meanwhile, a reduced but still robust demand for entry-level general labor suffers from a relatively new issue — higher wages from industries that compete for the same talent. Although wages in general have been slow to rise⁴ despite positive employment trends, an increasing number of states have raised their own minimum wage rate well beyond the \$7.25/hour federally mandated in 2009.⁵ This has had a disproportionately suppressive effect on the pool of available factory workers.

"Wage increases, in particular a set minimum wage, erode a long-time competitive advantage for manufacturing, which always had a higher pay scale," explains Fitzgerald. "Now, those same job seekers are being drawn to retail or restaurant work, where they may have more flexibility in scheduling."

"The rising demand and short supply in skilled trades means that manufacturers have to offer competitive wages for these positions," agrees Aerotek Director of Divisional Operations Nathan Coin.

One factor driving wages up is the growing role of automation in manufacturing, as the traditional maintenance skill set evolves to a more diagnostic, computer-based, sophisticated

skill set. Assembly-line workers now need to run, operate and troubleshoot computer-directed machinery. Manufacturers maintain complex websites with thousands of product and pricing options to be updated and maintained. And where forklifts are still driven by people, drivers often use software programs that track inventory.

Technology influences skills needed

Advanced manufacturing covers a whole host of new industrial processes that improve upon traditional methods in quality, speed and cost. Because of this, in addition to a need for traditional manufacturing roles, employers are looking for more tech skill sets, including knowledge or experience in:

- › Mechanical and electrical engineering processes
- › Computerized systems
- › Machine programming code
- › Manufacturing blueprints
- › Automated manufacturing systems
- › Hydraulic, pneumatic and electrical systems⁶

On- or off-shore?

Whether to locate manufacturing facilities on- or off-shore continues to depend on the availability and cost of labor, facilities, transportation and taxes.

As costs rise in offshore locations, some manufacturers are re-evaluating where they locate their manufacturing operations, now embracing a "hybrid method that incorporates onshore, offshore and offsite locations."⁷

“Manufacturers are increasingly investing in higher end and ‘smart’ products, so they need to make sure they’re staffed to optimize speed-to-market to get the most ROI.”

— Nathan Coin

Reshoring and foreign direct investment (FDI) together grew by more than 10 percent in 2016, adding 77,000 jobs and surpassing the rate of offshoring jobs by 27,000. In 2017,

reshoring and FDI job announcements added more than 171,000 jobs. The jobs equal 90 percent of the total U.S. manufacturing jobs added in 2017.⁸

Companies looking to reshore, attracted by lower labor, energy and water costs, should consider potential unplanned costs associated with state and/or local economic development incentives. These incentive packages typically have clauses obligating the manufacturer to maintain a certain number of employees or risk forfeiting some of the incentives.

Manufacturers are optimistic

Despite challenges, manufacturers are bullish on the future. The National Association of Manufacturers (NAM)'s Manufacturers' Outlook Survey⁹ for the second quarter of 2018 found that 95.1 percent of manufacturers have a positive outlook for their companies, with expectations of:

- › Hiring workers
- › Raising wages
- › Increasing investments
- › Higher sales

This response reflects an all-time high in the survey's 20-year history of measuring industry optimism.

INDUSTRY AND PRODUCT TRENDS

Automotive

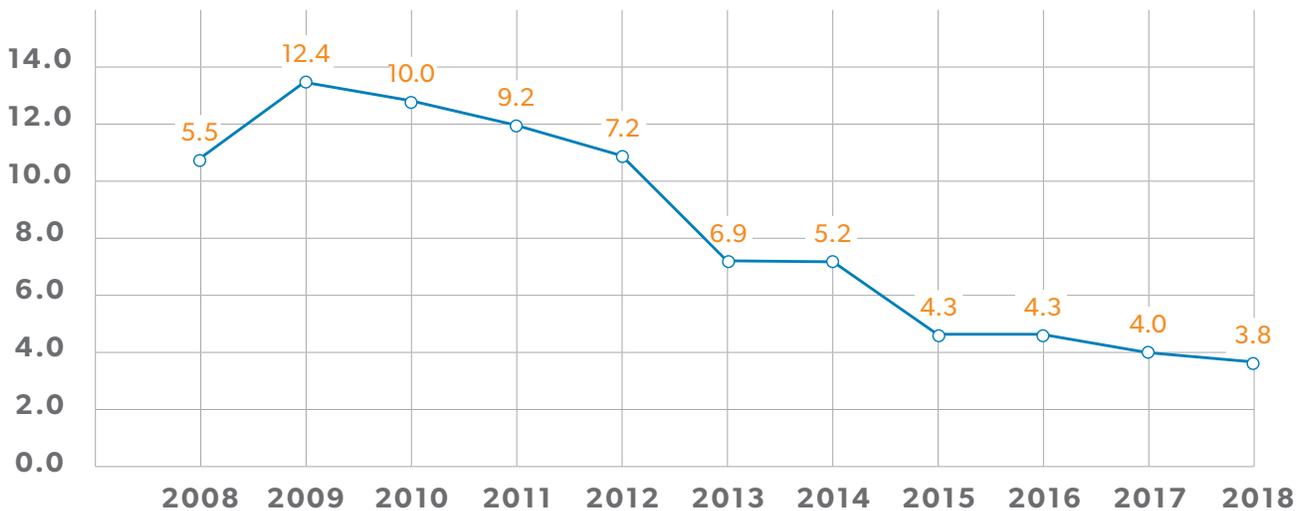
After more than 130 years, the automotive industry as we have known it now embraces a future as a mobility industry focused on "the technologies and services that enable people and products to move around more freely."¹⁰

Automakers have responded by adding capacity via new factories and adding new workers across all skill sets. "However, the need to hire a large volume of employees presents a significant challenge in this job market," says Devin Spaulding, an Aerotek manager with years of experience in transportation.

Competition is fierce, and highways within a 50-mile radius of worksites are dotted with billboards promoting job opportunities and the high end of wage ranges. But wages aren't the only motivator for job candidates who may be fielding multiple opportunities at once. To attract employees, companies are sweetening the pot in several ways:

- › Stronger benefits packages
- › A shorter path to advancement
- › More paid time off
- › For contract employees, a better chance at permanent employment

MANUFACTURING'S UNEMPLOYMENT RATE HAS PLUNGED



Source: Bureau of Labor Statistics, July 2008 to July 2018



“The most sought-after workers right now are maintenance technicians,” Spaulding adds. “That workforce is being squeezed on both ends, with increased competition for entry- and mid-level workers, as well as the need to replace retiring Baby Boom and Generation X workers.”

To fill the pipeline for factories in the central U.S. and other rural locations, employers are partnering with regional tech schools and leveraging governmental funding such as the Indiana Department of Workforce Development’s Skill UP program, which has provided funding towards adult programs, workforce training providers and economic development partners.¹¹

Consumer and industrial products

The expansion of e-commerce has spurred construction of new warehouses across the country to enable retailers to reduce delivery time and win share of market.

This growth has generated a higher demand for workers, and manufacturers are using previously-unheard-of tactics to secure the labor they need. “A manufacturer might bump pay — for permanent and contract employees alike — from \$15.50 an hour to \$19.50 an hour for September through December, to retain them during the crucial holiday season,” says Aerotek Director of Business Development Lindsay Green. “Once the surge is over, they go back to their regular pay,” she adds, noting that “it’s an approach that seems to have appealed to workers, who were glad of the extra pay they earned for their hard work.”

— “
In this candidate-driven hiring market, people are quitting their job before having another job lined up, because they know they can get hired elsewhere immediately.”

— Mike Fitzgerald

In this low-unemployment landscape, employers need to ensure they’re paying competitive wages to be seen as an employer of choice.

Especially for manufacturers employing hundreds of workers, the cost is significant. However, Green notes, operating short-staffed is a much more significant threat to their bottom line.

“If a 200-worker production facility is operating 10 workers short, they’re incurring overtime costs for existing staff as well as running the risk that they’re wearing out the permanent staff,” she says. “It also means they have their most experienced and reliable workers being taken off the job constantly to train new workers.” The net result is that they’re operating on far more than a 10-person deficit.

Retail manufacturing

Retail manufacturing is booming right now, due to factors boosting retail products sales. “Unemployment is low, real disposable personal income is rising, consumers are benefitting from low inflation and households are enjoying growing wealth due to rising house prices and a strong stock market ... these factors put more money in the pockets of consumers that retailers will compete to capture.”¹²

Both issues speak to the necessity of ensuring your company presents a strong employee value proposition (EVP), such as a positive environment and opportunities for advancement. Often the same elements that drive employee satisfaction also retain talent in the longer term, because employees see opportunity in the future in addition to the present.

Factors influencing employee satisfaction might not be what you think. “Surprisingly, pay rate is not always the most important factor in employee satisfaction,” according to Fitzgerald. Instead, he says, “Employees are looking to get feedback and know their opportunities for growth. Providing consistent and comprehensive performance feedback is just one way that retail manufacturers are retaining top talent in a job market heavily tilted toward job seekers.”

Food and beverage

Ongoing changes toward healthy cooking and eating habits as well as government regulations mandating changes to food labels, handling and distribution, are driving significant expansion in the food and beverage industry. With an annual growth rate forecast at 12.5 percent, market volume will hit \$27 billion by 2023.¹³

“Consumer demand continues to pressure food and beverage companies to innovate new products that trend toward organic, non-GMO, low sugar, low carbohydrate and lower calorie,” notes Aerotek Strategic Account Executive Ryan Gilley.

In response, adds Aerotek Director of Business Development Eric Pezzo, food and beverage companies have revised their approach to focus on:

- › Increasing investment in research and development efforts
- › Creating new products to satisfy consumer taste
- › Increasing factory capacity through construction or expansion

“These changes are also impacting the skill sets and experience levels employers are looking for. Employees are being asked to innovate and develop, as opposed to simply assure and control (quality assurance/quality control), which requires more experience,” says Gilley.

“FDA mandates require labeling to show ingredients and composition of all products, leading employers to demand more prior experience in regulated environments,” Pezzo says, while changing regulations in the handling and distribution of products has created an increased need for higher qualified and more experienced light and heavy industrial skill sets.

Medical devices

Sparked by a near-constant stream of advancements in technologies and treatments, medical devices are experiencing dramatic sales growth, with no end in sight. By 2021, the global market for medical devices is expected to top \$500 billion.¹⁴

“The medical devices industry is driven by innovation and talent,” notes Aerotek Director of Strategic Sales and Operations Luke Moran. “New products are released and almost immediately have built-up demand, so there’s a huge incentive for manufacturers to invest in the resources that will ensure they can meet demand with a quality product.”

Demand for products has spawned an increased need for specialized manufacturing talent, such as medical device assemblers. “Just a few years ago, most manufacturers wanted at least two to three years of experience,” says Moran. “Now, in part due to the labor shortage, they’re seeing the value in hiring entry-level workers who have aptitude and training them for six to eight weeks to ensure they are prepared.”

Navigating regulatory guidelines and approvals is another critical area of medical device manufacturing, notes Moran. “In the past, U.S. manufacturers were able to take advantage of less-stringent regulations in Europe to launch first there and gather data that would help build the case to get FDA approval.”

But more recently, the European Union has tightened its regulations and even requiring existing products to adhere to the new standards. “It’s made the approval process very busy

and chaotic," Moran says, which can be a serious challenge in a time when first-to-market products have the advantage. "That's led to a demand for auditor and analyst positions to help keep the program on track."

Pharmaceuticals

Heavy investment in research and development and clinical trials are helping to create drugs and treatments that improve health for consumers around the world, while at the same time fueling substantial growth in the pharmaceutical manufacturing industry.

R&D spending hit an all-time high of \$71.4 billion in 2017, up from \$65.5 billion in 2016 and \$29.8 billion in 2001, according to a member survey done by industry group PhRMA.¹⁵ "Pharma spending on R&D is continuing on a strong upward trajectory, with no signs of slowing down," notes Gina Gauna, director of strategic accounts for Aerotek.

Clinical trials are another crucial factor in driving industry expansion. Given the length of the lifecycle, continuity is a critical challenge in clinical trials. "Staff turnover can cause a trial to lose ground and even a small setback can be quite expensive," says Gauna.

Although recruitment is ongoing for positions at all skill sets and levels of experience, certain positions are at the forefront of demand. "One of the most in-demand disciplines, specific to the pharma and med device industries, is 'clean room' specialization," she says. "Because these positions require

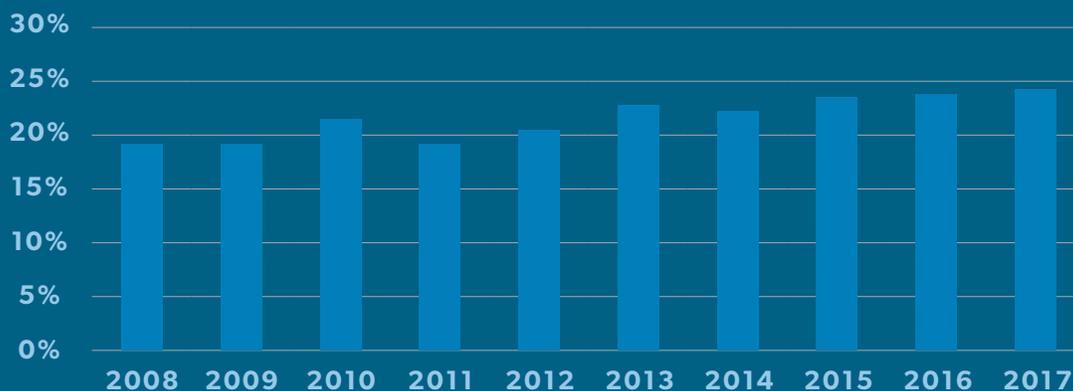
a keen attention to detail and commitment to continuous improvement, we have found that a background in science is often a nice fit for this environment."

We also see companies in this space struggle with the short-term nature of seasonal ramps. For example, when a company contracts with the government to produce large quantities of a vaccine by a specific date, there will naturally be a several-month period of downtime after production is complete before they need to start production for the following year. Because of this, it can be a good strategy to work with a staffing partner that can ramp up a large workforce quickly and then ramp it down and redeploy those workers to other projects before they return to the original project. Especially if a large percentage of that workforce returns to the project season after season, it can mitigate the cost of training and limiting learning curve errors.

For most employers, "proactively recruiting workers who are already employed has become the rule rather than the exception and building a flexible workforce model has become the norm," says Gauna.

Pharma is a rewarding industry to support because it attracts employees who want meaningful work that can have a positive impact on people. "The industry looks for people who are motivated by the intrinsic value associated with working for a company committed to the betterment of human life," notes Gauna.

PHARMA R&D SPENDING IS RISING STEADILY



Source: PhRMA Membership Survey 2018. Spending as percentage of sales.

TALENT PIPELINE OPPORTUNITIES

In addition to the specific recruiting strategies outlined above, industry experts identify several populations as crucial to maintaining manufacturing’s ongoing production capacity and financial viability — women, military veterans and the future generation of manufacturers.

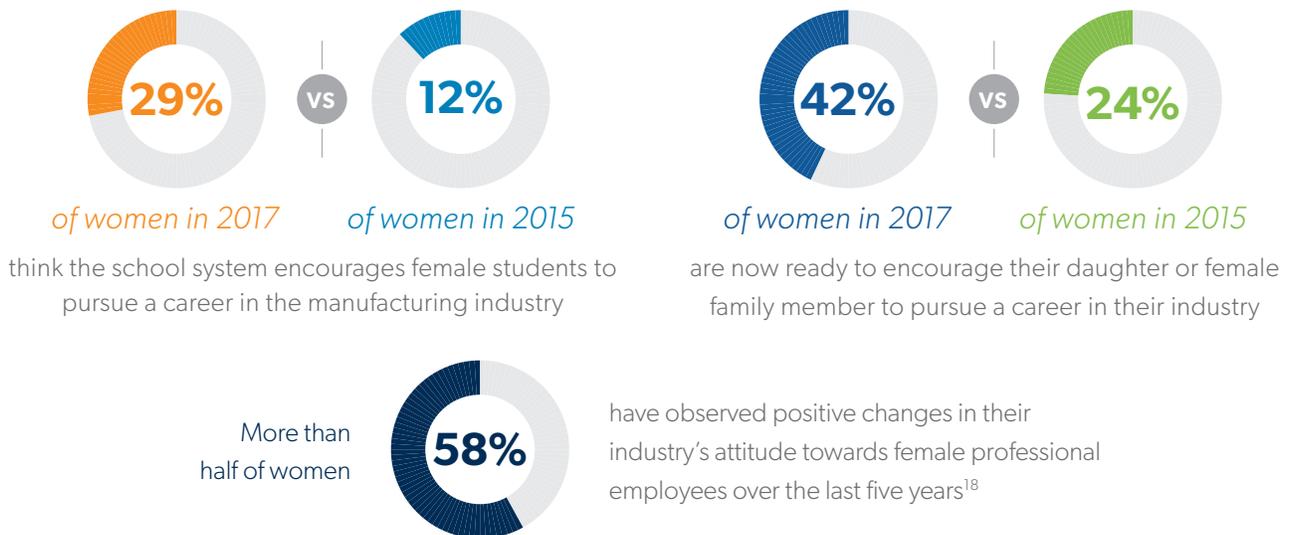
Women

According to Deloitte, women constitute one of manufacturing’s largest pools of untapped talent. “Women totaled about 47 percent of the U.S. labor force in 2016, but only 29 percent of the manufacturing workforce.”¹⁶

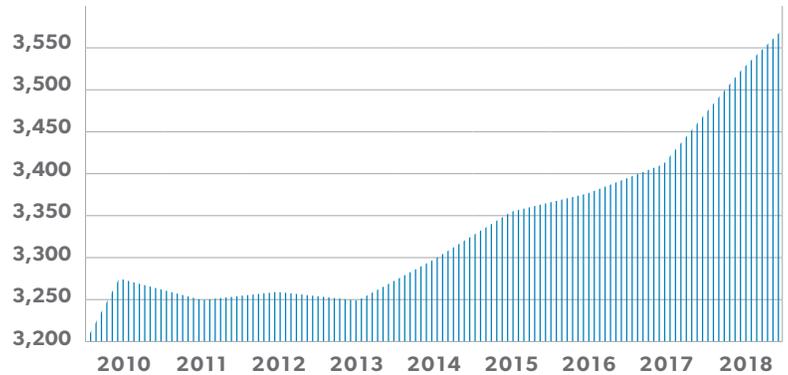
To help change perceptions of the manufacturing sector and promote career possibilities for women worker, in 2018 The Manufacturing Institute’s STEP (Science, Technology, Engineering and Production) Ahead Program and the Women in Manufacturing® (WiM) Association began a collaboration.

“With manufacturing’s skills gap, you can’t only look at 50 percent of the population to fill it. Women have got to be recruited in every role,” noted WiM President Allison Grealis. “Manufacturers are realizing diversity in the workforce is important — change won’t happen overnight, but it is happening.”¹⁷

Schools, employers and the manufacturing industry have upped their game over the last two years, and women are noticing:



WOMEN IN MANUFACTURING (000s)



Source: Federal Reserve Bank of St. Louis (FRED)

Military veterans

Around 200,000 service members transition out of the military each year,¹⁹ and most of them are seeking job opportunities for the next phase of their lives. For manufacturing employers, former military members are an attractive candidate pool. Aerotek Director of Business Development Dave Majerowicz, an Air Force veteran, notes these characteristics shared by veterans make them a good fit:

- › They're used to working in a team environment
- › They know they have to rely on each other
- › They realize that everyone has a part to play

"From an infantryman with four years to a colonel with 20 years, that's something they have in common," he says.

AROUND
200,000
SERVICE
MEMBERS
transition out of the
military each year

Logistics can be a natural fit for veterans, notes Majerowicz, since many veterans have achieved extensive experience in moving people and equipment on a daily basis, from planning field exercises to equipping a company.²⁰ Other aspects of military service could make veterans uniquely qualified for manufacturing jobs, such as:

- › Forecasting
- › Order management
- › Production planning
- › Warehouse or transportation operations

Future generations

Through events like Manufacturing Day, employers have sought to increase exposure to real-world work environments among young people considering career options. And it appears to be working — a Deloitte/Manufacturing Institute survey²¹ among students who had attended Manufacturing Day events in 2016 found that:



89% were more aware of jobs in their communities



84% were more convinced that manufacturing provided careers that are interesting and rewarding



64% were more motivated to pursue manufacturing careers

The Manufacturing Institute also found that experiential learning plays a large part in attracting students to the manufacturing industry.

"There's no better way to bring in new employees to manufacturing," says Spaulding. "They see the job, they learn the job, they watch and train. It's hands-on experience and gives them the best introduction to the job and the industry."

A recent American Staffing Association Workforce Monitor[®] survey indicates that attitudes are beginning to change, finding that the majority of Americans (62 percent) agree that apprenticeships — or "earn while learning" vocational opportunities — make people more employable than going to college.²²



CONCLUSION

Although manufacturers may be facing the toughest recruitment environment in decades, there are effective strategies that will aid in the acquisition and retention of the workers needed, such as an awareness of market factors, prevailing wage rates and a strong EVP. Whether employers are looking for hard-to-find maintenance technicians, clean room expertise or more high-tech skill sets, working with regional and national groups can help them tap into underrepresented labor pools to fill their needs.

To learn more, visit: [Aerotek.com](https://www.aerotek.com) | 1-888-AEROTEK

ENDNOTES

- 1 Percentage added to the Gross Domestic Product (GDP) of the United States of America in 2017, by industry (as a percentage of GDP) (2018). Statista. Retrieved from <https://www.statista.com/statistics/248004/percentage-added-to-the-us-gdp-by-industry/>
- 2 Manufacturing in the U.S. IBISWorld (2018).
- 3 Labor Force Statistics from the Current Population Survey (2018). Bureau of Labor Statistics. Retrieved from https://data.bls.gov/timeseries/LNU04032232?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true
- 4 Global employment is rising. Wages not so much. (2018) CNN Money. Retrieved from <https://money.cnn.com/2018/07/04/news/economy/jobs-labor-market-wages/index.html>
- 5 Questions and Answers About the Minimum Wage. U.S. Department of Labor. Retrieved from <https://www.dol.gov/whd/minwage/q-a.htm>
- 6 Manufacturers Are Hiring Again; What Skills Are They Looking For? Software Advice. Retrieved from <https://www.softwareadvice.com/resources/manufacturers-skills-in-demand/>
- 7 Right-Shoring to Maximize Product Engineering Efficiency and Revenue. EASI. Retrieved from <https://www.easi.com/en/insights/articles/right-shoring-to-maximize-product-engineering-efficiency-and-revenue>
- 8 FDI & Reshoring Lead to U.S. Manufacturing Growth. Area Development. Retrieved from <http://www.areadevelopment.com/LocationUSA/2018-US-inward-investment-guide/FDI-reshoring-lead-to-US-manufacturing-growth.shtml>
- 9 NAM Q2 Survey Shows All-Time Record for Optimism. National Association of Manufacturers. Retrieved from <http://www.nam.org/Newsroom/Press-Releases/2018/06/NAM-Q2-Survey-Shows-All-Time-Record-for-Optimism/>
- 10 Defining Mobility for the Automotive Industry. Techstars. Retrieved from <https://www.techstars.com/content/accelerators/mobility/defining-mobility-automotive-industry/>
- 11 Training Program Focuses on Advanced Manufacturing. Inside Indiana Business. Retrieved from <http://www.insideindianabusiness.com/story/34301972/training-program-focuses-on-advanced-manufacturing>
- 12 2018 retail, wholesale and distribution industry trends outlook. Deloitte. Retrieved from <https://www2.deloitte.com/us/en/pages/consumer-business/articles/retail-distribution-industry-outlook.html>
- 13 Food & Beverages. Statista. Retrieved from <https://www.statista.com/outlook/253/109/food-beverages/united-states>
- 14 Medical Technology Sales To Hit \$500B Within Five Years. Forbes. Retrieved from <https://www.forbes.com/sites/brucejapsen/2016/10/17/medical-technology-sales-to-hit-500b-within-five-years/#108bb11311be>
- 15 PhRMA Releases Annual Survey, Shows Highest R&D Spending Ever. PharmaLive. Retrieved from <http://www.pharmalive.com/pharma-releases-annual-survey-shows-highest-rd-spending-ever/>
- 16 Women in manufacturing study overview. Deloitte. Retrieved from <https://www2.deloitte.com/us/en/pages/manufacturing/articles/women-in-manufacturing-industrial-products-and-services.html>
- 17 STEP Ahead and the Women in Manufacturing® Association Collaborate to Close the Gender Gap. Manufacturing Institute. Retrieved from <http://www.themanufacturinginstitute.org/News-Articles/2018/05/10-WiM-Partnership.aspx>
- 18 Women in manufacturing study overview. Deloitte. Retrieved from <https://www2.deloitte.com/us/en/pages/manufacturing/articles/women-in-manufacturing-industrial-products-and-services.html>
- 19 As Workforce Crisis Grows, Manufacturers Connect Soldiers to Modern Manufacturing Careers. The Manufacturing Institute. Retrieved from <http://www.themanufacturinginstitute.org/News-Articles/2018/08/06-Fort-Hood.aspx>
- 20 The Undervalued Career Field That Loves to Hire Veterans. Task & Purpose. Retrieved from <https://taskandpurpose.com/logistics-career-veteran-jobs/>
- 21 Attracting the Next Generation of Students. The Manufacturing Institute. Retrieved from http://www.themanufacturinginstitute.org/Research/Other-Institute-Reports/~/_media/24ECD17A43324F7696BF758A9A116B6F.ashx
- 22 Apprenticeships Make People More Job-Ready Than College. American Staffing Association. Retrieved from <https://americanstaffing.net/posts/2018/08/09/apprenticeships-make-people-more-job-ready-than-college/>

ABOUT AEROTEK Our People Are Everything. For more than 30 years, Aerotek® Inc. has distinguished itself as a leader in recruiting and staffing services by having a deep understanding of the intersection of talent and business. As a strategic partner to more than 17,000 clients and 300,000 contract employees every year, Aerotek's people-focused approach yields competitive advantage for its clients and rewarding careers for its contract employees. Headquartered in Hanover, Md., Aerotek operates a network of over 230 non-franchised offices with more than 8,000 internal employees dedicated to serving our customers. To learn more, visit: Aerotek.com | 1-888-AEROTEK | An Allegis Group Company

