



WORKFORCE 2030

THE SKILLS COMPANIES WILL NEED TO SUCCEED



Staffing for Robotics &
Automation Skills





Executive Summary

In the year 2030, employers will need to reprioritize the skills they hire for, adapt to advances in technology and devise new retention strategies. Companies in manufacturing, robotics & automation, distribution & logistics and facilities maintenance will be particularly vulnerable to changes in the labor market. The adoption of robotics and automation into their operations will strengthen the competition to attract workers with the skills to maintain their state-of-the-art equipment.

In this white paper, we explore how new technology will reshape staffing strategies. We also highlight how employers can leverage their cutting-edge technology to attract the next generation of talent.



THE RISE OF AUTOMATION MEETS AN ONGOING LABOR SHORTAGE

As the number of jobs increases and labor force participation decreases, the labor shortage currently impacting employers across industries is projected to continue beyond 2030¹.

To complicate matters, the rise of robotics and automation is creating a need for workers with new skills. Manufacturing and distribution processes and equipment are becoming increasingly digitized. Companies are relying more on robots to perform basic functions. They are also investing in automating certain processes to improve efficiency. The demand for people who can operate, maintain and repair robotic and automated systems is strong and it should intensify over the next eight to ten years.

As companies look toward the future and their bottom lines, they're much more willing to put in the financial investments to make their facilities more automated³.

"During my time at Aerotek, I've seen automation grow, especially in distribution and logistics. COVID-19 really changed warehousing and the supply chain. Just in the past one to two years, I've seen exponential growth of roles in robotics and automation and clients are having more discussions about it," says Practice Lead Blake Poore.

Manufacturers are using more robotics than ever⁴. By 2030, the global demand for robotics will have nearly doubled⁵. This is putting pressure on employers to find workers with the skills to protect their investments. By targeting workers with skills in machine maintenance, electronics and programming, companies can better prepare themselves for advancements in technology.

THE NEXT GENERATION OF SKILLED TRADE PROFESSIONALS

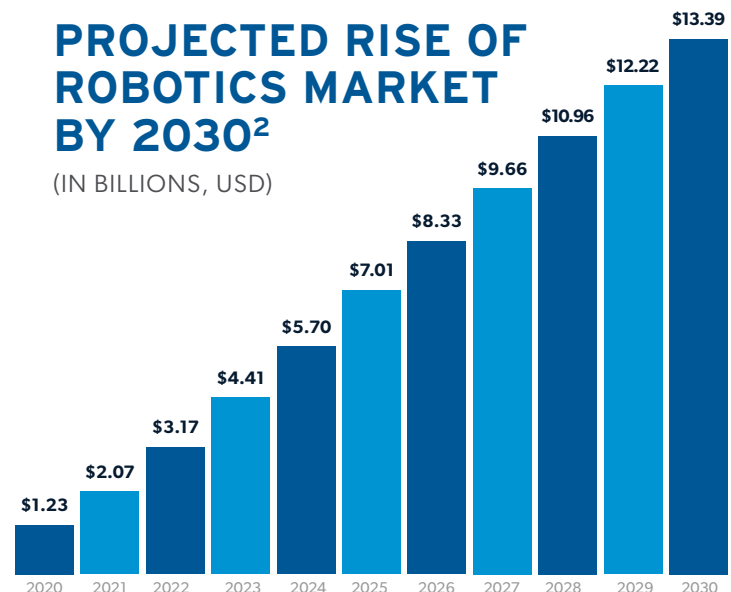
In 2030, the job descriptions for skilled trades workers in manufacturing, distribution and facilities maintenance will change significantly. According to Poore, the transition has already started.

"What used to be your old school, blue collar, 'turn the wrench' maintenance mechanic is turning into more of a sophisticated role responsible for upgrades to technology and equipment. Maintenance mechanics and maintenance technicians are starting to learn aspects of robotics and automation," says Poore.

Despite the demand for new skills, there will still be opportunities for those with experience in the skilled trades. Many companies currently staff their robotics and automation roles by targeting talent with experience in other relevant trades to leverage their transferable skills.

PROJECTED RISE OF ROBOTICS MARKET BY 2030²

(IN BILLIONS, USD)



1 2.1 Million Manufacturing Jobs Could Go Unfilled by 2030. National Association of Managers. Retrieved from <https://www.nam.org/2-1-million-manufacturing-jobs-could-go-unfilled-by-2030-13743/?stream=workforce>

2 <https://www.statista.com/statistics/1259903/robotic-process-automation-market-size-worldwide/>

3 Report: Companies that Invested in Automation saw 5% to 7% Revenue Increase. Venture Beat. Retrieved From: <https://venturebeat.com/business/report-companies-that-invested-in-automation-saw-5-to-7-revenue-increase/>

4 Robots Marched on In 2021, With Record Orders by North American Firms. Reuters. Retrieved from <https://www.reuters.com/technology/robots-marched-2021-with-record-orders-by-north-american-firms-2022-02-02/>

5 Global Industrial Robotics Market Is Likely to Grow at a CAGR Value of Around 11.8% By 2020. Zion Market Research. Retrieved from <https://www.zionmarketresearch.com/news/global-industrial-robotics-market>

“There are a variety of skill sets that can transfer to robotics and automation. Companies will need more machine operators to focus on the operations of the various automated equipment. These operators will need to be computer savvy and perform routine general maintenance and repairs,” says Director of Strategic Sales, Stanley Johnson.

Johnson says high-level PLC (Programmable Logic Controller) programmers, maintenance mechanics and maintenance electricians also have skills that can transfer to these robotics and automation roles.

“With robotics and automation becoming more common, companies will need more people in the fields of industrial maintenance and mechatronics — the fusion of electrical and mechanical engineering — than we have previously seen throughout the evolution of manufacturing,” says Johnson.

The decrease in labor force participation will likely mean workers will have to take on more job responsibilities. Therefore, it will become important for employers to hire and develop generalists or workers who can perform a wide range of duties.

“I believe the evolution of the new roles will require more of a blend of skills than you have with very clearly delineated jobs. Companies are going to need more generalists. Especially regarding the installation and commissioning piece of robotics and automation. Employers will need someone with the vision and conceptualization from engineering and the hands-on experience from the mechatronics and automation portion to be well-rounded in the field. Workers like this can be cross employable everywhere instead of being the specialists,” says Poore.



Everything is becoming more intricate. Networks and smart systems are allowing technicians to use technology to control facility ventilation, lighting and other building systems from remote locations. The ability to understand these systems and troubleshoot equipment remotely is also becoming more valuable.

*Jake Dukes
Account Executive*



The work environment is also changing what skills are required. Maintenance workers are traditionally known for performing hands-on repairs and

traveling around the jobsite to inspect equipment. Over the next 10 years, office work and the ability to diagnose problems remotely will become standard.

Computer skills — especially those related to reporting and analytics — will also become required. Proficiency in

new automated systems will be critical, but future robotics technicians will also be using Microsoft Office and other common software to log reports and communicate across teams.

ROBOTICS PRESENTS AN OPPORTUNITY TO REBRAND THE SKILLED TRADES

A recent Berkshire Grey Research survey found that nearly three-quarters of distribution & logistics executives believe robotics automation can help them attract less-experienced applicants⁶.

The same survey also found that 43 percent of warehousing executives believe implementing automation can increase retention.

While not every manufacturer or distributor has committed to robotics and automation, the majority understand how technology is drastically changing their industries.

Over the next 10 years, employers will need to evolve their staffing strategies. Learning how to use their cutting-edge technology to attract and

⁶ Berkshire Grey Research Finds a Leading Cause of the Labor Shortage in Warehouses. Berkshire Grey Research. Retrieved from <https://www.berkshiregrey.com/resources/press-release/berkshire-grey-research-finds-a-leading-cause-of-the-labor-shortage-in-warehouses/>

retain less-experienced talent may help companies overcome labor shortage challenges. According to Stanley Black & Decker's Makers Index, most high schoolers ages 14-19 view the skilled trades as a good quality career. However, only 49 percent of those surveyed would consider starting a skilled trades career⁷.

The inability to attract younger talent in the face of reduced labor force participation will significantly hinder business performance. The good news is that robotics and automation can provide a pipeline to younger workers interested in gaining experience with new technology.

"State-of-the-art technology is a bigger sell in robotics than in a lot of other trades.

Pay will be most important for a long time. But the type of equipment you're working with and how far it can advance careers is going to be a huge draw for talent. When I can tell a candidate that I've been to the jobsite and tell them about the cool equipment they'll have a chance to work with, it's impactful," says Poore.

Employers, high schools, trade schools, local governments and staffing firms will need to show younger talent how the skilled trades landscape is changing. This audience may have misconceptions about the future of the skilled trades but exposing them to careers that utilize cutting-edge equipment can help change their perceptions.

"When speaking to talent about robotics and automation jobs, we want to be career counselors and convince them that robotics and automation is becoming a part of every distribution facility. We're helping to rebrand the profession and trying to help educate job seekers about the benefits of working in robotics and automation," says Sales Practice Lead Grant Brindle.

7 Stanley Black and Decker Makers Index. Stanley Black and Decker. Retrieved from <https://www.stanleyblackanddecker.com/impact/people/makers-index>

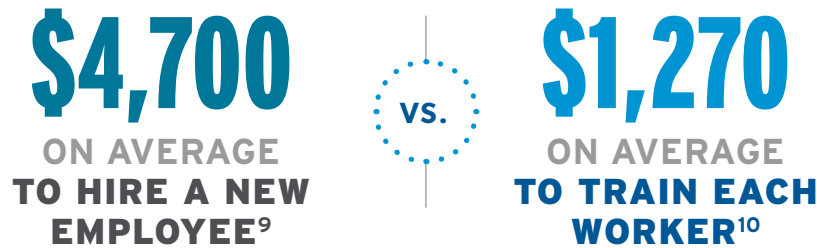
8 The State of L&D in 2022. TalentLMS & Society of Human Resource Managers. Retrieved from <https://www.talentlms.com/employee-learning-and-development-stats>

TRAINING BECOMES CRITICAL

The current labor shortage is projected to continue through 2030. It may be a candidate's job market for the foreseeable future and their motivations will reshape retention strategies across industries.

One motivation that has already begun to change employer-employee relationships is access to learning and development (L&D) opportunities. A survey from TalentLMS and the Society of Human Resource Management (SHRM) found that 76 percent of employees say they are more likely to stay with a company that provides continuous training. Companies are responding to this by increasing their L&D budgets⁸.

"Today, workers are seeking more from their employers. That 'more' could be more job flexibility, more compensation, but a big factor in attracting and retaining talent, is 'more' in terms of learning and development. Employers offering upskilling or additional skills learning and development programs are more likely to attract and retain talent longer," says Director of Strategic Sales, Tim Callaghan.



The companies that that are implementing these training processes may not all have any commonalities in how they train, but they're very bullish on training the trainer and training each other and increasing their own knowledge capture of how to create best practices. They're gradually improving how they install and maintain their equipment.

*Blake Poore
Practice Lead*



In general, it costs less to train employees than it does to hire new talent. SHRM reports that it costs \$4,700 on average to hire a new employee⁹. Compare this to the \$1,270 Statista says companies spent to train each worker¹⁰. The cost savings is just one reason for companies to examine their current employee training strategies. Another reason is that it will improve how companies capture knowledge and make improvements to their processes.



CONCLUSION

In 2030, robotic and automated equipment will play a much larger role in manufacturing, warehousing and facilities maintenance.

Employers should begin staffing for the hard skills related to this technology immediately to prepare for future challenges.

By hiring and developing workers with skills in machine maintenance, electronics and programming, companies will be in a better position to meet the labor challenges of 2030.

New technology may play a larger role in retention strategies over the next 10 years. Companies shouldn't rely on their newest investments to retain current employees or attract new hires. It should be part of evolving retention strategy that focuses on the changing motivations for the next generation of workers. Part three of this white paper series explores the skills employers will need to secure workers and stabilize their workforces.

9 The Real Costs of Recruitment. Society of Human Resource Managers. Retrieved from <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/the-real-costs-of-recruitment.aspx>

10 Average Spend on Workplace Training Per Employee Worldwide From 2009 to 2020. Statista. <https://www.statista.com/statistics/738519/workplace-training-spending-per-employee/>

ABOUT AEROTEK

Our People Are Everything™. For more than 35 years, Aerotek® Inc. has built a reputation for providing the highest-quality staffing and workforce management solutions. With deep expertise in the manufacturing, logistics, construction, aviation and facility management industries, we partner with 13,000 clients and more than 200,000 light industrial and skilled trades contract employees every year. Our people-focused approach connects quality talent with meaningful work and continuous opportunities. Headquartered in Hanover, Md., Aerotek operates a unified network of over 250 offices across North America. Aerotek is an operating company within Allegis Group, a global leader in talent solutions.

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