Workers' Comp

As robots come to work, our tasks will include safety and quality

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6 MIN READ

Robots are coming for your job. That's the thrust of much of the discussion around automation and work. While that might one day prove true for many of us, the more immediate consideration is that robots are coming *to* your job. This means as employers weave more automation into workplaces, they will need to further consider how workers and semi-autonomous machines interact. In our last post on this topic, we looked at how automation will continue to seep into many workplaces. In many cases, we'll see robots work "collaboratively" alongside us as so-called cobots. We discussed how humans plus machines can yield greater efficiency.

Here we'll examine how robots can help workers and also where more thought might be needed to ensure robots add to the quality of work left to human hands. The benefits of powerful robots in areas such as manufacturing are so compelling they are self-evident. Robots, exempt from exhortations to bend at the knees or be mindful of repetitive strain injuries, can take the literal load off workers. Robots often can work faster and, of course, without breaks, weekends, or holidays. It's easy to see why managers would want an indefatigable, injury-proof dynamo capable of lifting heavy equipment or shuttling materials without incident.

How many burgers can you flip?

While safety remains paramount, there are other aspects to consider when it comes to robots. Cost is one because this type of high-end automation can be expensive. Of course, as with other technologies, prices have dropped over time. Costs aside, robots aren't best suited for every type of work, at least for now. Yet, like humans, robots will go where the jobs are. It's safe to assume we're likely to see increased use of automation in areas where speed, accuracy, and repetition are hallmarks. Some applications are surprising. One California restaurant uses a robot named Flippy to, you guessed it, rotate burgers and remove them from the grill when sensors indicate the meat is cooked. Beyond Flippy's prodigious flipping – 150 to 300 burgers an hour! – there are more prosaic yet impactful examples of automation at work. Robots have been assembling in some high-demand areas such as warehousing amid the booming internet economy. The number of online shopping businesses tripled from 2001 through 2017, according to 2018 data from the Labor Department.

During that same time employment in that area surged 68 percent. While the slim profit margins around warehousing work have made some companies reluctant to invest in capital-intensive projects like adding robots, others are jumping in. The most obvious examples are the vast Amazon warehouses pulsating with endless flows of cardboard. The internet behemoth has introduced robots to more than two dozen of its 175 global fulfillment centers to help move goods to where humans can pluck the necessary items and pack them in boxes. This means

workers aren't left lifting as many heavy loads or plying aisles in search of merchandise. At the same time, the presence of robots at an employer could mean some workers end up spending more time essentially stationary in their workspaces and perhaps more time repeating certain motions. This could raise concerns about injuries that occur from overuse of certain muscle groups, for example. A 2019 report from the University of California at Berkeley and Working Partnerships USA warned that while robots might take on the most grueling tasks such as lifting, their efficiency could mean workers are pushed to engage in a faster pace and that automation tools could be deployed to serve as taskmasters for human workers. Already, the report noted, people who work in warehouses suffer workplace injuries at nearly double the rate of those who work in other industries that can be dangerous such as construction, coal mining, and many parts of manufacturing. "The increasing pace of work in warehouses may introduce new health and safety hazards, as well as increased employee turnover due to overwork and burnout," the report found.

Let technology lend you a hand

While technology could speed up work it might also help ease burdens in novel ways. Some innovations involve having humans wear robotic exoskeletons. The idea brings to mind the famous scene of Sigourney Weaver's character, Ellen Ripley, in the movie *Aliens,* as she climbs into a "power loader" suit to battle a rapacious extraterrestrial creature. In real life, the U.S. military in 2019 awarded a domestic robot maker a contract for an exoskeleton that allows a wearer to carry heavy loads. Ford Motor Co. has also been expanding the use of exoskeletons in factories to help relieve strain from workers who must reach over their heads as they assemble vehicles. As technologies like exoskeletons and robots make their way into more workplaces, it will be necessary to further examine the intersection of people and machines. In 2017, the National Institute for Occupational Safety and Health, an arm of the Centers for Disease Control and Prevention, established the Center for Occupational Robotics Research. Among its inquiries, the group is studying areas such as how collision-avoidance systems powered by algorithms might help prevent worker injuries. The need for more work is clear, according to the agency: "The breakthroughs in the availability of collaborative robots have significantly increased the potential for physical contact, thus risk of injury, between human and robot workers." A study published in 2016 in the *Journal of Occupational and Environmental Hygiene* examined the role of "occupational robotics" in terms of workplace safety and health. Researchers cautioned that old methods of keeping workers safe, such as cordoning off robots, wouldn't suffice in a workplace in which humans and robots were interacting.

Proximity sensors, software tools, and perhaps even visual scanners to help robots detect fear in humans would be needed to help promote safe interactions. The study pointed to other potential pitfalls, including mental health challenges, that could emerge when the person in the next seat over is, in fact, not a person. The International Labor Organization (ILO) also raised questions about the mental toll on workers in a 2019 report. The United Nations agency called for more discussion on the role of technology in "advancing decent work." The report noted cobots could reduce work-related stress and potential injuries. Yet at the same time, the ILO warned that letting technology be in charge of refining processes risks alienating workers and limiting their development. "Automation can reduce worker control and autonomy, as well as the richness of work content, resulting in a potential deskilling and decline in worker satisfaction," the report stated. Questions around worker safety and wellbeing are likely to continue as cobots and other forms of automation move deeper into the places we work. If these technologies deliver on the promise of safeguarding humans from some of the more dangerous aspects of work, we could see welcome declines in catastrophic incidents. We might also see fewer of us having to do less-fulfilling work. And yet it's possible we'll have to confront simultaneous shifts in injury types or the prevalence of certain injuries. Perhaps, with careful consideration, employers and their partners could manage those risks so that we humans are left with higher-quality work experiences that are also safer. In that case, let the robots come to our jobs.



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