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SAFETY TECHNOLOGY

A Smarter Way to Safety

The possibilities for improving workplace safety are limited only by the imagination.

Dave Blanchard | Apr 16, 2019

Companies have long turned to technology to drive their productivity, but the dirty-little-secret nobody likes to talk about is that worker safety often takes a back seat to productivity. That trade-off, fortunately, may soon be a thing of the past thanks to a new breed of safety tech. With the emergence of such technologies as robotics, augmented reality, wearable devices and predictive analytics, organizations are discovering that it's not only possible but preferable to adopt digital technologies that enhance the safety of the workplace.

Some are calling this movement Safety 4.0, a spin-off of Industry 4.0 (aka the Internet of Things). The IoT's proponents have focused largely on connected devices that can monitor and communicate diagnostic data throughout an entire network, a boon for predictive maintenance on all types of computerized devices, from production machinery to hospital equipment to transportation vehicles. Taking that concept into the safety arena, though, shifts the focus from the machine to the worker. And the possibilities for improving employee safety are limited only by the imagination.

Consumer devices such as activity trackers and smart watches are already helping people count their steps each day, or monitor their heart rate, or let them know how well they slept the previous night. Companies have started to catch on that the quickest way to get their employees' buy-in on new

workplace technologies is to offer them equipment that is familiar and user-friendly. And if these safety tools can be fashionable as well, so much the better.

For instance, why should only motorcyclists get to wear stylishly cool helmets? Thanks to the integration of sensors, cameras and augmented reality, construction workers could someday soon wear helmets that can let them know they're entering unsafe areas, access building blueprints, or alert them when they are exposed to hazardous gases.

Consider the value of robots and drones, particularly when it comes to deploying them for tasks too dangerous for workers, whether it be in environments toxic to humans or the overhead inspection of crumbling infrastructure. In fact, though it sounds a bit like "RoboCop"-type science fiction, technology is making it possible for humans to become, in a sense, robot-like through the adoption of exoskeletons that relieve the stress on their bones and muscles while allowing them to perform heavy lifting without overexertion.

AI-based predictive analytics could make it possible for companies to predict the likelihood of workplace accidents. Autonomous trucks could lessen the likelihood of a human driver getting drowsy behind the wheel. Lone worker devices can alert a supervisor when an employee falls or blacks out.

EHS Today, in partnership with Cority, recently conducted a 2019 "EHS Trends in Technology Survey," which you'll be hearing a lot more about throughout the year. One trend I found particularly intriguing was that 25% of respondents (all EHS Today subscribers) say they are currently using robots in safety procedures, and another 21% expect to be doing so within the next five years if not sooner. It gets me to wondering if we're seeing the beginning of a seismic shift that will leave the workplace much, much safer... but perhaps a lot lonelier, too since the ultimate way to protect human employees is to not have any.

Certainly, no company is suggesting or even hinting at automating humans out of the workforce altogether, but you can understand how the thought might be tempting. Companies are spending \$1 billion every week on workers' compensation, according to the Workplace Safety Index compiled by Liberty Mutual Insurance, primarily medical and lost-wage payments. While robots do need to be maintained, they have yet to complain about lost wages when they're in the shop.

Clearly, there are many, many tasks that robots aren't suited for and may never be able to accomplish, at least not in our lifetimes. The real secret that needs to be talked about a lot more often is how technology—not just robots, but the whole plethora of wearables, enhanced PPE and predictive analytics software are making the workplace much safer for employees. At the end of the workday, thanks to the adoption of these technologies, employees will have a higher likelihood of going home safely.