

How AI and Wearable Devices Enable a Safe Return to Work

By Dave Zielinski

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When Sandra Corkern was looking for ways to keep her employees safe in their return to the workplace, she turned to AI for help. Corkern, workplace management leader for consulting and tax firm EY, opted to deploy AI tools from IBM to help automate office space planning, coordinate workspace cleaning duties and create other social distancing strategies to keep EY employees safe and productive.

The technology features:

- Indoor mapping that can help employees search for available desks or office rooms.
- Density heat-mapping that alerts facility managers, HR leaders and workers to the number of employees in given spaces based on Wi-Fi and occupancy-sensing devices.
- Space-planning software to help determine proper social distancing between workspaces as companies plan new layouts.

The tools are part of IBM's TRIRIGA integrated workplace management system and a product of IBM's partnership with technology company Esri. The technology can help companies avoid tedious manual tasks like assigning staff to walk around and record which desks or meeting rooms are occupied.

"We support our real estate technology and innovation team with this technology for social distancing, contact tracing and to help manage the cleaning of workspaces after employees use them," Corkern said. "It allows us to quickly provide data to multiple systems in support of certain workspaces booked on certain days to ensure they're cleaned and at least 48 hours pass before other employees use them."

Kendra DeKeyrel, director of the IBM TRIRIGA platform, said employees use the technology to stay socially distanced as they enter buildings and navigate their way to workspaces.

"It provides an optimal route to walk to places to avoid gatherings of people," she said. "The technology also can do things like automatically block out 15 minutes after any meeting to create a work order to clean the room, versus just routinely cleaning every room on every floor."

A mobile app lets users know when desks or meeting rooms they intend to use have been cleaned and sanitized, and a virtual assistant embedded in the platform can answer questions from employees like how to book a meeting room or locate colleagues' assigned seats.

The density heat-mapping capability gives employees a bird's-eye view of what areas are most populated.

"Ideally you want to show your employees, not just tell them, what's happening inside a building in near real time to build the trust factor," DeKeyrel said. "Are people congregating in the lobby, in a cafeteria or around elevators? Are they on one side of a floor or another? That allows employees to determine how they'll move about a building or maybe what desk they will choose."

Space-planning software allows facilities managers to efficiently draw out where employees from different departments will sit to keep them safe and healthy. Planners use its drag-and-drop tools to set social distancing guidelines, test different seat arrangements and maintain enough seating for both group and individual work.

"As guidelines change and companies slowly increase employee capacity from 25 to 50 and so on, they need to quickly reconfigure who sits where and what meeting rooms are available," DeKeyrel said. "Planners need to be able to create multiple spacing scenarios they can easily call up when guidelines change."

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Wearables Help Create Safe Workplaces

Other organizations are deploying tools like wearable devices to protect against COVID-19 infections. Mike Webb, chief human resource officer and executive vice president for Nutrien, a provider of crop inputs and services based in Saskatoon, Saskatchewan, Canada, said his company is using proximity monitoring and contact-tracing tools from Triax Technologies with more than 8,000 of its employees.

Nutrien was deemed an essential service at the start of the pandemic for its role in supporting the agriculture industry. To help keep workers safe in its plants, the company deployed proximity trace tags that are attached to workers' clothing and give off audio and visual alerts to those who come within 6 feet of a co-worker.

"You can put the device on a lanyard hung around your neck or on other parts of the body like a hard hat when a lanyard isn't safe," Webb said. "Some employees clip it to their work uniform. People almost look at it as a form of competition. They don't want the alert system beeping, so they go out of their way to keep 6 feet from others."

The wearable sensors also automatically log data so company leaders can quickly perform contact tracing if a positive COVID-19 case is identified, Webb said. "The sensors tell a centralized system whether you've had proximity to an individual, where and for how long if that individual has tested positive," he said.

Webb said the technology has helped keep COVID-19 infections and workforce absences to a minimum as well as avoid operational shutdowns of plants. For example, the company periodically performs "turnarounds" where a facility is temporarily taken offline to conduct upgrades and maintenance. One such turnaround was recently conducted at a nitrogen manufacturing plant that involved 1,700 full-time employees and contractors in the event. The wearable devices helped limit the number of positive COVID-19 cases in that scenario to five, Webb said.

"When we did identify a positive case, we were able to ensure anyone who had contact with that person quickly went into quarantine," Webb said. The small number of positive cases also helped Nutrien keep the turnaround operation on schedule and budget, he added.

Webb said the proximity monitoring technology, which he called "not cheap but not overly expensive," has produced a strong return on investment. "When you consider the importance of keeping our employees safe and healthy at work, the system has easily paid for itself," he said.

Webb anticipates keeping the technology in place even after his workforce has received the COVID-19 vaccine. "COVID is going to be with us for some time, and we're planning on having these precautions in place indefinitely," he said.

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