



How Three Construction Companies Use Technology to Improve Safety



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When Jon Liesmaki started as the new Director of Environment, Health and Safety at a curtain wall application company called Harmon Inc., he inherited a paper-driven safety program managed on clipboards and spreadsheets, with little organization.

And even if employees recorded safety incidents, they did not communicate them effectively. Instead, employees relayed messages via phone trees and occasionally emails but rarely company-wide. Therefore, for example, an injury at a Baltimore project may never be known to the other offices in other cities. "Those lessons learned may not get communicated to the Denver project that we're running, and the same mistakes happen," Liesmaki says.

He knew the safety program needed a major overhaul and an upgrade from analog to digital to reduce injuries, boost production, and save the company money. Nevertheless, he understood the task might prove more complicated than buying an app and expecting everyone to adopt it immediately.

After twenty-seven demos of different safety management systems, Liesmaki finally settled on the right one. Then, he engaged in strategic planning – workflows, adaptation, training, and gaining buy-in. Additionally, he knew his biggest hurdle would be employees' comfort level with the new technology. Out went the cumbersome paperwork and dated VHS training tapes, and in came automation with company-wide notifications. Fast-forward to the present day, and among other successes, the OSHA incident rate dropped significantly from about 4 cases per 100 employees to below 1 per 100 employees, he says.



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Within the construction industry, managing safety remains a huge and vital task. It involves heavy record-keeping and constant training, which both require efficient execution for success. While technology exists for accomplishing both, adopting technological practices has typically occurred more slowly within the construction industry, resulting in tedious paperwork and the possibility for missed steps, avoidable accidents, and litigation.

In today's technological times, having outdated safety management protocols can pose dangers. According to the U.S. Bureau of Labor Statistics, in 2020, 10.2 of 100,000 construction workers suffer a fatal injury, establishing the fourth-highest rate among all other industries. Falls account for 33% of all construction deaths. Not to mention, the construction industry experienced 24% higher rates of injury and illness than did all other industries on average in 2020.

Yet, the construction industry is slow-moving to make the leap into technological solutions. Safety managers cite people's reluctance to change, relying on the mentality, "That's how it has always been done." The managers also note the difficulty in teaching new software to those less technologically savvy. Companies hesitate to pay for programs because they lack confidence that the return on investment will seem worthwhile. Some companies may have attempted this switch, but they purchased programs not as easy to use or adopt within their business.

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A worthy investment

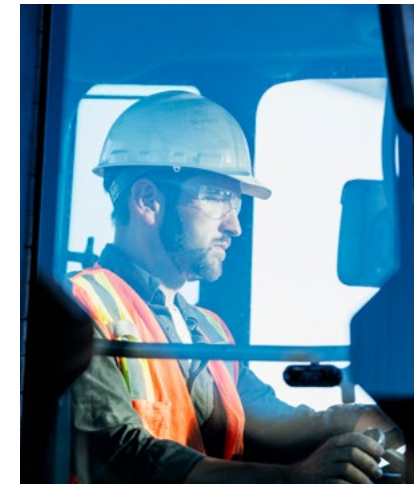
Studies have shown that investing in a good safety program will yield advantageous returns. It benefits both the workers and the company by keeping workers safe and injury-free and promoting worker retention and timeliness in production schedules.

Costs to the worker

Investing in a safety program protects workers by providing comprehensive training on the correct way to do their jobs and with less danger. It eliminates the potential for making and repeating mistakes, often easily preventable with proper training. With a productive and effective safety program, companies can reduce the overall risks to the workers.

According to the data from insurance company Travelers, nearly one-third of injuries occur in a worker's first year on the job. According to the National Safety Foundation, in 2019, younger workers between ages 25 to 34 were more likely to be injured on the job. Both factors indicate a dire need for better training to protect newer employees in the industry.

Injuries cause workers to miss days on the job, generating income loss and out-of-pocket health care costs. Those who recover might have PTSD or fear performing the same job again. For others, the injury may also cause long-term disability, possibly preventing them from ever working again.





Costs to the company

Construction injuries and fatalities can cost companies significant loss in workers, time, money, morale and more. Workers' compensation claims for non-fatal falls are \$2.5 billion each year, according to insurance company Liberty Mutual. The "fatal four" accounts for 60% of all construction-related deaths – falls, electrocution, struck by equipment, or caught in between an object. In 2020, 180,000 workers missed work due to injury, setting back schedules, overburdening existing crews, and costing employers money.

Meanwhile, companies who have implemented successful safety programs have seen the benefits. According to a 2021 report by Dodge Data and Analytics, **78% of businesses reported better negotiation for insurance terms**, and **73% reported better standing in the industry, which led to finding new work and projects** as well as retaining and attracting employees.

A company culture based on safety can also unite a company. "Prior to this – we had different divisions or departments – and if there was an issue in one department, nobody else knew about it," says Melissa Robertson, Safety Director of Kroeker, Inc., a demolition contractor in Fresno, CA. Now, she receives phone calls from concerned managers around the different departments. "I feel like it's a benefit that everybody has an understanding."

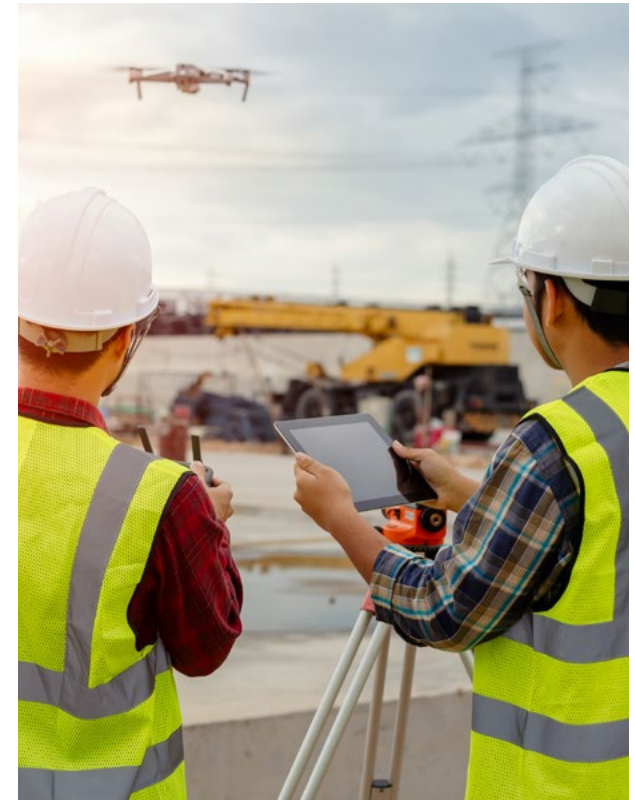
Building a culture of safety

Creating a culture of safety also remains a requirement among younger workers, those more likely to experience a workplace injury. In today's labor market, younger workers expect both a high-tech working environment and a higher level of concern for their safety than previous generations. According to Dodge, **48% of companies reported that a solid safety program contributed to attracting new talent**. However, not all companies are showing enough concern for their workers' safety – and the workers sense it. A 2017 survey by the National Safety Council found that **58% of construction workers felt that their safety was not prioritized as high as productivity** and fail to report an incident, sometimes out of fear. Nearly half believe their companies did the bare minimum to keep their workers safe.

When Richard Krymski started as Safety Manager at Hazard Construction in the San Diego area in 2019, the company outsourced most safety training. As a result, employees needed to travel somewhere else for the training, racking up high costs for the company.

Krymski ran the numbers and found that if Hazard Construction performed the training in-house with his leadership, they would save money and receive more effective training. He adopted a software training program employees could easily view and participate in on their own time. Initially, he says, employees expressed some resistance because people lacked experience learning via computer rather than in-person instruction. But eventually, people began to adapt and soon welcomed it.

As a result, the business improved dramatically. As of early December 2021, he reports the company has achieved 722 days incident-free. Furthermore, interest continues to grow in learning more. "A lot of guys were actually really happy to go through and learn some of the information in the courses," he says.



As of early December 2021, Hazard Construction reports the company has achieved **722 days incident-free**.

Dodge Data and Analytics' statistics back this up: 87% of large companies and 73% of small companies reported an increased willingness of jobsite workers to report unsafe work conditions.

Fall protection received the most popular feedback. "I'm not training people to just train people. I'm training people in fields that they need and what they need to know." Having an online version rather than a classroom one also frees up a lot of his time, which he can now spend observing and helping people in the field.

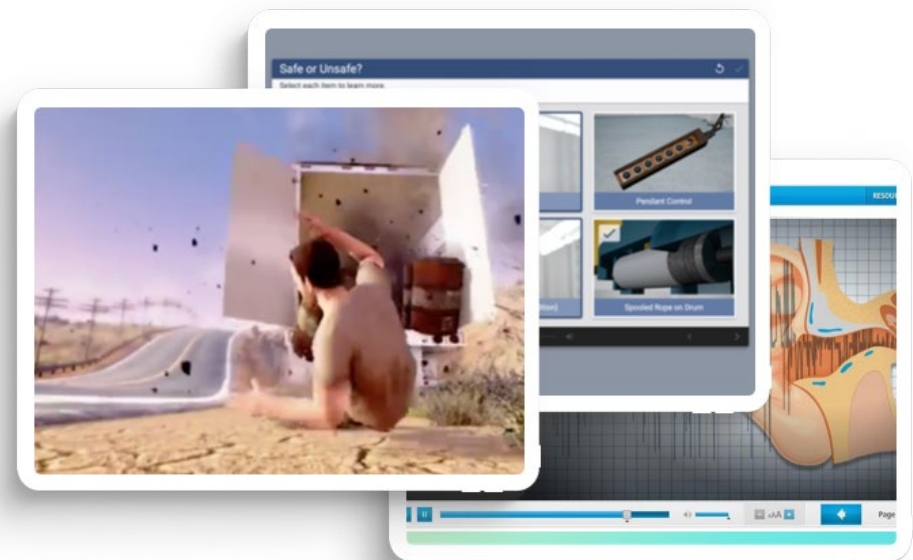
He feels the success lies in the courses' friendly and unpatronizing approach in presentation and layout. "That's one of the biggest issues that we have too – is they want to be educated... [but] don't want to be talked down to."

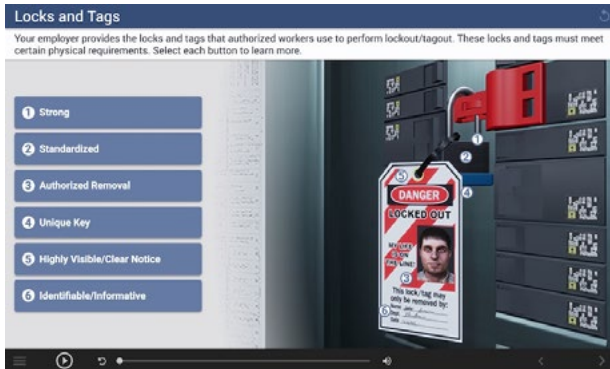
Liesmaki, from Harmon Construction, has also noticed more interest in the safety program – a nearly 180-degree change from the previous attitudes. He recalls the former program referred to as "uninspiring," something that "was a requirement they had to do. It was a box they had to check."

The entire company required changes to its culture, with its leadership team fully aware. It had already made significant overhauls to other processes, from marketing to financing to bidding. Safety needed consideration next. In the past, the work involved sending a manager to take a few OSHA classes. When Liesmaki came on board, he offered an entirely new management system. Liesmaki created workflow processes for reporting an injury so that employees received alerts and

could remain aware of any incidents. He relies on a common but practical philosophy: "Keep it as simple as possible." This line of thinking included a slow roll-out of all the available features to avoid confusing people with too much at once. Over the course of an entire year, as people adapted to recording and receiving notifications about injuries, near misses, and hazard observations, his team added an audit module. After another six months, they implemented a certification module.

Similarly, when Melissa Robertson started at Kroeker, the company had made a step in the right direction and adopted a safety program app. However, the app was cumbersome and clunky, with "hundreds of pre-loaded questions that were basically quoted texts from the regulation." She argued that the app provided "too much information," and no one received any of it.





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She approached the new general manager, who allowed her to shop around to find the right program with a budget under \$5,000. She starts as the lone person using the system to do audits, and has been rolling it out over time to other employees. She has already submitted orders for iPads, so workers do not need to use their personal phones if they don't want to.

“I would like our entire safety program to be something that I set up, I teach, and I manage, but I’m not the only one that’s physically doing it every day,” she says.

However, she recognizes that fully implementing this safety program will require more than simply training people. “It’s mostly just a culture change. They’ve never had it be this way before.”

Part of that culture change, like all other companies, includes the attitude towards safety. Robertson notes that many people have the assumption that an incident will never happen to them. “But then inevitably it does, and then you end up spending more than you would have if you’d have tried to prevent it. But still, companies are reluctant to move in that direction,” Robertson reasons. “Safety is a savings that you don’t always see. Management can think they’re just spending money, and you can never really calculate how much money you’re saving.” But by preventing these big injuries, there’s more than just a cost savings, you can be saving lives.



Conclusion

Companies that upgraded their safety prevention programs from a paper-based system to a digitized one found positive changes and results, but those results and changes ranged in how much time, effort and money was spent to roll the program out successfully. Those who went as far as to convince management to make the switch were already invested in seeing its success; many found their rates of injuries and incidents dropping significantly and the willingness to report them increasing. When shown the ease and reduction in paperwork that technology brought to the safety program, employees and managers were more willing to adopt the program and learn how to use it.



For more information

on how you can overcome the hurdles of moving from legacy processes to better safety management, contact HSI.

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