

Member Communication Experience

Robots on Construction Sites Are Raising Legal Questions

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Mark Twain said that “good decisions come from experience. Experience comes from making bad decisions.” Aesop warns “be careful what you wish for...” But is there a good decision to be made now to employ robots on your next project? There is not a lot of experience to help us make that decision, and the robotic laborer that does not tire or need breaks or desire a raise or promotion looks like an option we might all wish for when planning our next project.

Are there pitfalls, traps for the unwary? Always. Spotting them is the trick. After a brief glimpse into the past for appropriate context, there are a few traps that need to be considered.

Revolution is Evolution

Three prior industrial revolutions, illustrated by the ages of the steam engine, mass production, and electricity, and the emergence of digital technology, ushered in change at an ever-accelerating pace. Robotics is included by many observers as part of the Fourth Industrial Revolution.

The integrated circuit (IC) is what makes robotics possible (as it does for all modern computing). Gordon Moore, who in 1975 predicted the doubling each year of the number of transistors in an IC, might not have thought that today, in 2023, a single IC contains 58 billion transistors.

Technology entered our industry long ago. For example, at a basic level, camera drones started inspecting bridges in 1995. Now, large projects typically have several drones flying each day to capture what progress they can of the job.



Keep in mind that there is no race against these machines that can be won, as Kevin Kelly, the founder of Wired magazine, has said, “If we race against them, we lose. This is a race with the machines. You’ll be paid in the future based on how well you work with robots.” Money is pouring into construction robotics as well, an indicator as to where our industry is headed.

While the industry is still catching up to other industries in the sophistication of its robots, there are already many useful robots on the market and in daily use, including those used for repetitive work by programmable, mobile, strong, workhorse robots or data-gathering devices that can resemble small tanks or dogs.

Giving the complexity and ever-changing nature of a construction site, with cluttered worksites, unforeseen conditions and revisions happening in real time, adding robots to the mix may make it easier, or harder, to control the project.

Ask these questions: How do you integrate the robot into your team? How does the robot learn the experience your team already has? A few ideas on how to establish control and plan to use robots effectively are out there, and executives and counsel need to consider them not in five years, but now, as robots become more advanced with every passing day.

Three Legal Scenarios to Consider

Scenario 1: Suppose a data-gathering autonomous LiDAR robot crawls around your project on rubber tracks, goes upstairs on its own, and knows the AUTO-CAD layout. It records the progress and tolerance compliance, or lack thereof, of your overhead MEP (mechanical, electrical, plumbing). That robot can be required in your MEP specs, triggering the duty of the design-build MEP trade partners to use that robot and gather data and supply it to the general contractor and owner. In that vein, if the architect does not include the robot requirement in its draft specs, some may argue that not including it reflects the lack of the requisite professional skill and care ordinarily provided by architects working on modern, large, and complex projects.

Now apply a similar standard to a general contractor looking for the right MEP design-build trade partners. The “good-and-workmanlike-manner” standard requires a quality of work performed “by one who has the knowledge, training, or experience necessary” performing in a manner “that is



About the Author

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