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Written by: Donna L t Smarct budgets clearCBT10 0 0 3]TETDreas& e BDC BT10 0q296m[D792.96 Tm6416760008308407mB

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In the past few years, there has been an explosion in the types of technology available to contractors on-site. The potential to improve productivity and increase budget and schedule certainty are among the appealing bene fts that these technologies have the potential to offer. However, one of the most promising areas that many of these new technologies can address is improving jobsite safety.

Certainly, immediate bene fts have already been seen from deploying these technologies, such as wearable sensor systems that can warn workers when they are entering a hazardous zone.

A recent issue of Dodge Data & Analytics Civil Quarterly examining a wide swath of the new technologies available on-site on civil projects, including site capture, tracking technologies, robotics and machinery, and augmented and virtual reality, found that improved safety performance is the third most frequently selected top bene ft expected from using this technology, behind only increased productivity and improved project budget management.

Contractors clearly believe in and prioritize the safety improvements offered by new technologies.

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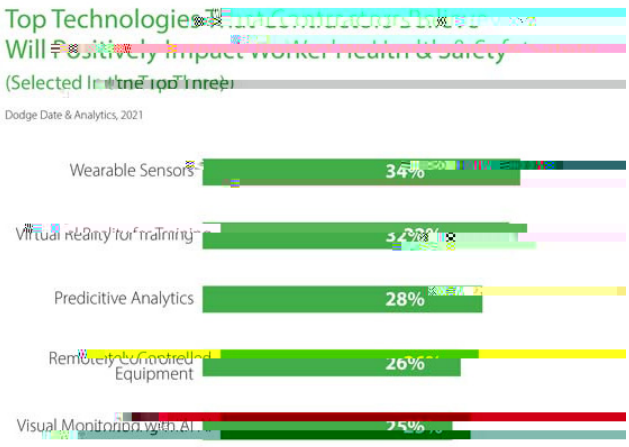
Right now, though, the latest Safety Management in the Construction Industry SmartMarket Report, published by Dodge in partnership with CPWR and Newmetrix, reveals that the construction industry is still in the early stages of utilizing the data provided by many kinds of technology to improve safety.

The report reveals that a data-driven approach to safety is starting to emerge but is still limited to a small set of contractors. However, using the data increasingly available from a wide range of new digital tools on-site has the potential to help the industry improve its performance in this critical area and ensure that adoption of this technology and

tracking this data provides real advantages for the construction industry.



As shown in Figure 1, according to the study released in the SmartMarket Report, predictive analytics is among the top three new technologies that contractors believe will positively impact worker health and safety.

However, only 10% of contractors in the study report that they are currently using these tools. Notably, though, over half of those who are using predictive analytics report that they are using them frequently, which suggests that they are finding them useful enough to engage with on a regular basis.

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For predictive analytics to be useful, though, it requires a lot of clean, comparable, up-to-date and accurate data on factors impacting safety on projects. This is not only a challenge for many contractors, but it is also one that many are not even considering yet. The study reveals that only 19% of contractors believe that making better use of the projects and safety data they collect is an important way to improve their existing safety programs, and only 21% believe that the use of predictive analytics is an essential element of a world-class safety program.

This suggests that many in the industry are not yet considering the use of data to improve their safety programs, other than those on the leading edge of adoption of this approach.

Part of the challenge is that the rapid growth in technologies to be used on-site has led to a "wild west" in terms of adoption, with lots of contractors exploring different options that suit their needs, but little overall uniformity in the types of data gathered on jobsites.

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As technology adoption continues to grow though, the use of tools that can gather the type of data needed for predictive analytics, such as sensors and Internet of Things (IoT) devices and reality capture tools, will likely grow as well, leading to more standardized forms of data being more accessible to a wider range of contractors.

One example of a set of tools that are seeing increasing adoption on jobsites that will help contractors seeking to have more data-driven safety programs are reality capture tools. The most recent edition of the Civil Quarterly has data from a recent study with civil contractors that shows that drones and aerial mapping are already used by over 50% of civil contractors and digital cameras are used by 42% while project site webcams are used by 22%.

All of these can provide data that can be used to improve safety immediately on-site, and that have the potential to be compared across sites to help encourage a broader understanding of safety across the organization. Already, 31% of civil contractors report that they use reality capture tools for on-site safety preparation and management, and nearly half of those using reality capture tech (46%) report that improved safety is one of the top benefts they achieve from the use of these tools.

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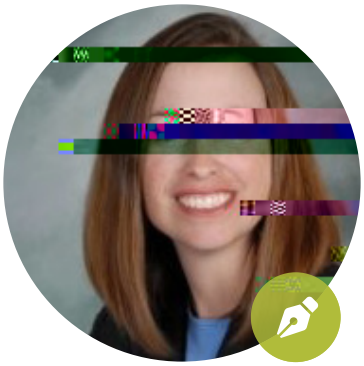
The findings of all these recent studies by Dodge suggest the industry is just beginning to see the safety benefts of using new, on-site technologies and predictive analytics. It will be interesting to see how contractors use this technology and the data it delivers to improve safety in the future. And to see which technologies see mass adoption and use from general contractors, especially if things begin to pick up in the new year.



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Donna Laquidara-Carr, Ph.D., is industry insights research director at Dodge Data & Analytics, where she provides editorial direction to the SmartMarket Report Series, covering such diverse topics as world green building trends, business value of BIM, managing risk in the construction industry, the drive toward healthier buildings, building a safety culture, and lean construction. Her insights on these topics have been published in numerous industry publications, and she regularly conducts webinars and speaks about this research at events for diverse organizations, including the AIA National Conference, CMAA National Convention, AGC National Convention, the Lean Congress, Greenbuild, the inaugural WELL Conference and BOMA.

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