

Member Communication Experience

Three Technologies Supporting Construction's Sustainability Aspirations

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Technology is developing at a rapid pace to address construction challenges in new ways that are complementary to traditional efforts. Collectively, these efforts will position the construction industry to manage risk better and institute more sustainable business practices at a quicker pace. From operational improvements to strategic and competitive advantages, technology can be a big help and the companies that use it best will lead the rest of the industry.



The Real Value of Investment

One of the questions that always comes up is around technology's return on investment (ROI). The ROI of technology includes the value proposition of the tech, and how the tech affects the risks it addresses.

When it comes to the value proposition of technology, it can be broken down into two categories: the core function of the technology and the data that can be gathered.

The core function is tied up in what the technology actually does. How does a technology improve the actual risk through its function? This is the more important of these two categories, because if the technology solves an actual problem you have, the data you get from the technology will necessarily be useful to the business. There are lots of technologies and technology adoptions that, as the saying goes, put the cart before the horse. They focus on the data proposition. But if a construction firm does that, it's looking at it backward.

Technology needs to solve a real problem first, and the data that follows will then be valuable.

The second piece of the ROI is the size of the risk and how technology impacts it. There are two theoretical ways in which technology does this:

- » **Loss prevention** – These are technologies that actually prevent an incident. For example, look at water mitigation technologies. There are systems that detect unusual activity in the flow of water in buildings and shut off a valve if something is not right. That prevents a risk; that's loss prevention.
- » **Loss reduction** – To continue that example, there are also water technologies that identify when there is water somewhere it shouldn't be. It can literally be a puck or a rope on the floor that lets someone know when it gets wet.

Someone still has to quit binge-watching Netflix and go to the site, find the valve, and turn it off. It's certainly better to find out on Friday night than on Monday morning, but a leak still occurs. These tools reduce risk, but don't prevent it.

Each has its place. Businesses must decide which risks are big enough to spend money on and how much of it is worth spending. That is the genius at the intersection of risk management and innovation.

Truly Adding Value

To wring the absolute most out of your technology, it's helpful to explore how technologies support a firm's goals beyond their immediate use cases.

Efficiently using technology means using it for all the workstreams it can possibly support. And there are usually more than it might initially appear. For example, many technologies on construction sites for other primary use cases have sustainability stories to tell. It's up to builders to understand and tell that story – to take credit where credit is due, raise awareness and support their overall sustainability goals.

Since construction firms are already doing the work and making the investments, they should absolutely get credit for what they are doing. This requires that the industry take a closer look at how technology supports their sustainability aspirations. Let's look at three technologies that are already helping contractors move closer to their sustainability goals.

1. Telematics (Fleet Management)

The primary use case for fleet management technology is tracking maintenance, vehicles, and equipment, in addition to understanding where assets and drivers are – and knowing they will be on time. The data is useful to support greater safety, efficiency optimization, and identify opportunities for less expensive preventive maintenance.

But less obvious is how telematics technology supports sustainability goals spanning environmental, social, and governance issues. In the environmental realm, vehicle

telematics has the potential to reduce greenhouse gas emissions from fuel use by identifying excessive idling, helping to plan more efficient routes and informing electric vehicle (EV) transition decisions, where applicable.

In the realm of social sustainability, artificial intelligence (AI)-powered dashcams and driver coaching programs reduce unsafe driving behaviors and increase the safety of a construction company's workforce as well as the safety of the communities in which they operate.

With regards to governance, the reporting and data gathered can provide construction company leaders with the information they need to inform their teams, customers, regulators and the public on how they're meeting and exceeding all these goals.

2. Water Mitigation (Leak Detection and Prevention)

Clearly, the primary use case for the wide variety of available water mitigation tools is preventing or identifying water leaks. The data collected from these technologies is invaluable and may point to information about when water leaks happen and their typical causes. This is an opportunity to improve water damage mitigation processes.

The sustainability tie-in is also clear: If water leaks don't happen, water and construction material waste are reduced. What typically happens when there is a water leak? Rework – which equates to tearing out some carbon and replacing it with more carbon. Preventing rework is a clear sustainability win.


There are also social benefits that accrue if water is managed well. First of all, rework is dangerous work, and many injuries happen during rework. So, the safety benefits to employees and trade partners are clear. Additionally, if water is managed well, the indoor air quality of the structure will be improved – very likely during construction and after. And the data collected can prove very meaningful in telling a firm's sustainability story.

3. Supply Chain and Materials Management

Supply chain and materials management technology's primary use case involves tracking and ensuring that materials are

heading toward the jobsite, knowledge of where and when they will arrive, and facilitation of workforce planning. The data potential for this technology includes strategic advantages, including identifying trending issues, informing sound purchasing decisions, and elevating efficiency onsite.

The environmental benefits of supply chain and materials management technology are related to reduced materials wastage and reduced fuel usage. Socially, it helps builders demonstrate businesses' commitment to local industry, and it provides data for robust reporting of material origins and transport, and any efforts to create efficiencies in those areas.

These are just three examples, not a complete list. The more construction businesses think about what technology can do to support sustainability goals, the more compelling the case for technology becomes. 



About the Author

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