Construction Tech Trends

The future of construction has arrived.

2020 sounds really futuristic, doesn't it? While we don't have flying cars or jetpacks (readily available to the average consumer) quite yet, there are some pretty impressive technological advancements that have made their way into our lives and our workplaces. The construction industry hasn't been known for hopping on tech trends, but as construction technology advances, more and more jobsites are going digital. At this point, technology is essential for completing our everyday tasks, and we are on the brink of a major tech revolution in the construction industry – so let's take a look at some of the tech trends that we expect to see a lot more of in 2020.

First, we'll start with where we're at right now:

Just in the past few years, we've seen a huge shift in attitude toward technology across the construction industry. This is in part due to the fact that a new generation is entering the workforce, but mostly can be accredited to the fact that construction technology has moved leaps and bounds in a very short period of time. Back in the early days of the digital era, the only tech available was in the form of relatively basic software, and the few programs available were about as frustrating as, well, any other software for the time. Between learning how to navigate clunky systems and convincing colleagues to actually give it a try, the whole thing just seemed like a waste of time — so for several years, there was a resistance to trying new technology.

When we entered the era of simple, easy-to-use web applications that actually improve efficiency on construction projects, the industry remained resistant. It was only when a handful of movers and shakers were able to prove the effectiveness of construction tech that we saw more contractors getting on board. Now that we are surrounded by tech in every other aspect of our lives, it only makes sense that jobsites around the world are benefitting from the implementation of digital tools.

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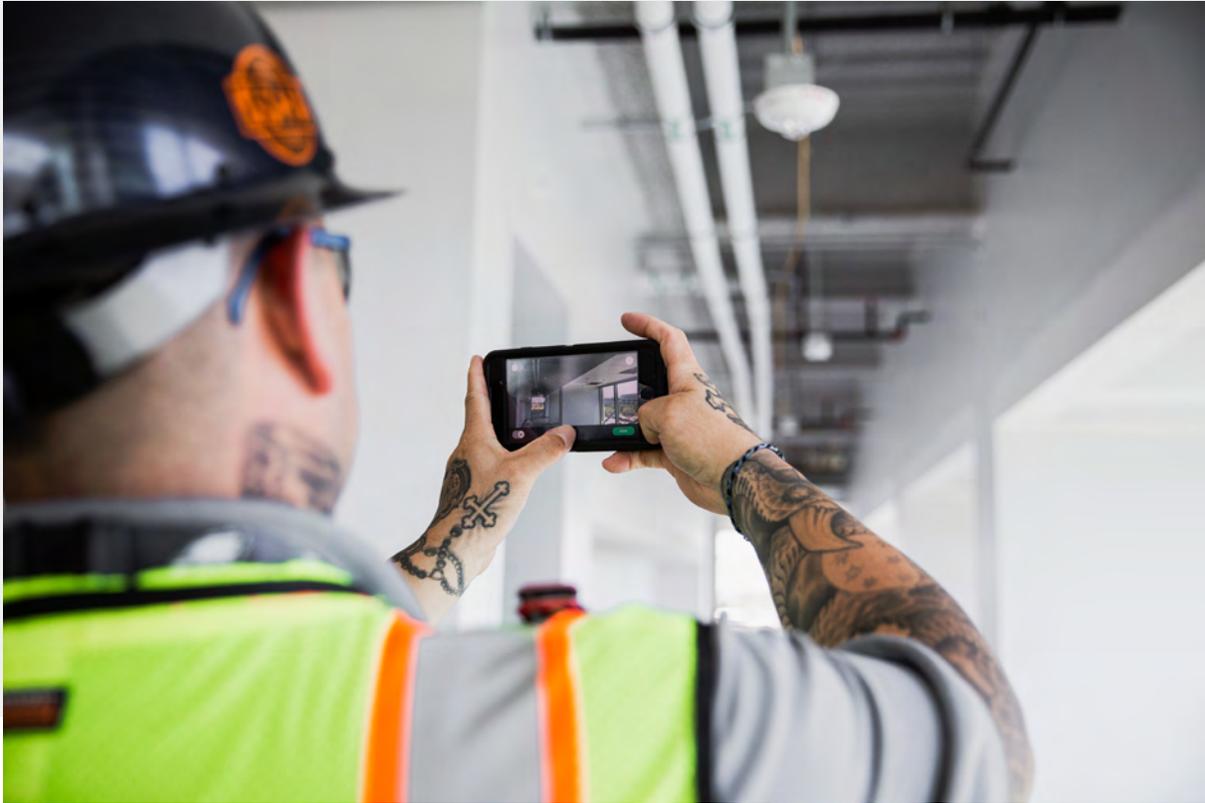
What do we still need to do?

Although tech is gaining popularity in the construction industry, we still have a ways to go before software, digitally-supplemented equipment, modularity, and cameras are universally accepted. While there has been a huge increase in tech adoption from the office level, a large quantity of folks in the field have felt like these tools are doing more harm than good. In order to see continued growth in the construction tech sector, the use of digital tools must become more consistent, which can be facilitated by creating digital tools with the field user in mind. Project owners and general contractors are starting to include required software usage in their contracts, so subcontractors are obligated to utilize the digital tools they are provided. Whether we like it or not, tech is here to stay.

Where are we going next?

Now that we have a plethora of available tech solutions for construction projects, where do we go? Is this our peak? Not exactly. While software and technology has improved significantly, there are still plenty of ways in which we can increase efficiency. The existing solutions are continuously being updated and improved upon, and new construction tech companies are popping up all the time. There are also a handful of tech innovations that have made it to the mainstream, but are slowly entering the construction sector, such as drones and 3D printing. In 2020 this tech will likely have a stronger presence on jobsites, and can be used for productivity, compliance, and safety. As mobile software becomes more intuitive, it will prevent delays and further streamline the flow of communication, helping to speed up construction project progress.

These are the trends:

1. **Automation**
2. **Safety equipment**
3. **New prefabrication**
4. **Green construction**
5. **Software**
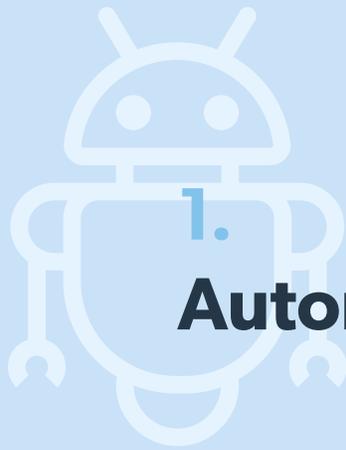
1.
Automation

Robots

When you think of robots, you may envision humanoid beings, such as the infamous C3PO or Rosie, the Jetsons' trusty robot maid. The reality is that robots come in all sorts of forms, and in construction, we are starting to embrace the utilization of both automated and human-led robotics. Before we get into the "robots are stealing our jobs" debate, let's make one thing clear: we believe there will be no robots stealing any jobs. If anything, they will just be filling gaps in the workforce, and will in fact create new roles for operation and administration.

It's highly possible that technology will advance quickly enough to see robots that automate tedious tasks (like laying bricks or tying rebar) become a staple on jobsites, as they're already engaged in some large-scale builds. One special robot stands out: a robot dog called Spot created by Boston Dynamics. Construction software HoloBuilder has partnered with Boston Dynamics to use Spot as an intuitive way to inspect jobsites and capture 360 degree images. However, most of the exciting new robotics that will be used on construction projects in 2020 will be human-operated, such as advanced heavy machinery, virtual reality equipment controls, and even exoskeleton suits.

Drones

Drones have been present in construction for several years, but they just keep getting better. What was originally used as only a surveillance tool has become so much more. Although they are a form of robots in the technical sense, drones have so much potential to help the construction industry that they get their own category. Drones can capture project progress, take high quality photos and videos for marketing purposes, perform inspections, and can work as a code scanner for hard-to-reach places.

There are rules and regulations when it comes to flying drones in both commercial and residential areas, but contractors can acquire permits that allow drone usage for certain purposes. Many of the guidelines refer specifically to drones with cameras, which are the most commonly found drones on construction sites at this time, but drones can also assist with automating processes like transporting materials. It wouldn't be surprising if multiple types of drones were a fixture on all large construction projects by the end of 2020.

2.
Safety equipment

Gadgets for an accident-free future

Construction is a notoriously dangerous industry, with one of the highest annual rates of workplace fatalities, but we are constantly striving to create safer jobsites. With that comes new inventions designed specifically to make sure that those present on construction sites get home safely to their families every evening. The last thing anyone wants to happen on a construction project is an injury (or worse), and with new technology, it's becoming much easier to prevent accidents.

Wearables and smart PPE have been used by contractors for a few years now and have been helpful, but as the technology continues to advance, reducing jobsite safety incidents to zero is becoming even more feasible. Sensors in hard hats, safety vests, glasses, and tool belts can detect potentially hazardous situations, and send out alerts if an accident does occur. This year, these gadgets will be setting new standards for jobsite safety.

3.
New prefabrication

You've probably heard quite a bit about 3D printing over the last few years. There have even been concepts of entirely 3D printed homes. But don't worry... this tech isn't replacing us anytime soon. For now, 3D printing is helping with modular and prefabricated construction – speeding projects up and helping to fill the current labor shortage. In 2020, the role of 3D printing will continue to grow within the construction sector as the technology improves to efficiently produce higher quality results.

The issues that once prevented mass adoption of 3D printing (such as limited availability of printers, size limitations, and expense) have been solved as the machines have become exponentially more popular among many industries, including medicine, engineering, and of course, construction.

4.
Green construction technology

Saving the planet, one new building at a time

Construction has always been considered an industry with an enormous carbon footprint, and only recently that's started to change. With a few adjustments, the construction industry is doing its part to go green, and with that comes the introduction of more green construction technology. Unlike the other tech tools we've discussed, green construction technology extends far beyond the scope of the duration of the construction project. In fact, green construction technology is really more about the what than the how.

Materials that are made by low-impact manufacturers help reduce the carbon footprint of a project, and by incorporating green technologies into a building's infrastructure, it will thrive as an environmentally friendly structure for years to come. Actual construction tools, however, are also experiencing a green technology transformation. New machines create less emissions, and even entire processes, like demolition, are adopting new methods that leave less of an environmental impact. We have seen a steady increase in the amount of green construction projects over the last few years, and in 2020, that number will continue to rise.

5.
Software

Tools that don't fit on a belt

You'd think that by 2020, we'd have our smart phones implanted with a chip in our brains at this point, but alas, here we are, still carrying around our miniature personal supercomputers. The good news is our trusty rectangular pals offer a million and one ways to make our lives easier, including digital tools for our jobs. Construction software has improved exponentially since its inception – we all remember the days of frustrating programs on our clunky old computers.

Now software has evolved to the point in which we have mobile apps that can help us manage nearly every aspect of a construction project – including all of the technology mentioned in this eBook. This year, we will continue to see improvements in the construction software realm - with even easier, more efficient methods for tracking activity in the field. By increasing both quality and profitability, specialized project management software has become an invaluable asset to the construction industry. There are a few quickly-evolving construction software programs to keep your eye on in 2020:

Raken
Raken provides mobile-first technology to streamline field workflows for the construction industry, connecting the field to the office with daily reports, time cards, toolbox talks, photo management, production tracking and more.

HoloBuilder
HoloBuilder is a digital tool that allows users to capture a 360 degree view of a jobsite to provide a window into project progress.

Egnyte
Egnyte is a cloud-based file storage system for organizing all project documentation in one searchable database.

Bluebeam Revu
Bluebeam Revu offers solutions for marking up project documents – such as submittals, RFIs, and designs – in real-time.

Join
Join improves the preconstruction process by enabling users to make informed decisions before beginning a project.

The tech is coming
(and we can't stop it)

At this point, it's pretty evident that modern technology is not only becoming a larger part of the construction industry, but that projects wouldn't be able to move forward without it. From physical tools to virtual assistance, tech plays a role in every single stage of a construction project. In 2020, we will only see more tech out in the field, and we'll all be better off because of it. While it may seem daunting that all of these modern tools are creating such an impactful presence in construction, this is necessary for the growth and health of an industry.

we're just beginning to scratch the surface of what technology can actually do

Obviously these changes can't be made overnight. However, many of them have been in the works for years now, and technology is finally getting to the point in where it's an asset to construction, instead of a hinderance. What were once complicated, expensive tools that only a computer scientist could operate have evolved through countless phases of development, and have evolved to be useful for everyone. That said, 2020 is not the peak for construction tech. In fact, we're just beginning to scratch the surface of what technology can do to improve the construction industry.

While all of these exciting tech trends seem to have found their place within the construction world, they have taken their sweet time getting here. Although there are still some hesitant folks holding onto their dusty notebooks and binders, most construction industry professionals are eagerly awaiting the adoption of more upcoming tech trends. The bottom line: now that it's here, technology isn't going to go anywhere, and the tools keep getting better and better.

Keep moving forward

The good news is that technology is here to make our lives and our jobs easier. Although it can seem complex at first, one of the main benefits of implementing technology into the construction workforce is to assist with everyday, tedious tasks and decrease the time it takes to complete them. The phrase, "work smarter, not harder," is occasionally overused, but it's truly applicable for using tech to your advantage at work. By leveraging technology you can get time back, complete your jobs faster, and get off the jobsite sooner. In an industry famous for long hours and delayed projects, a little extra time would be nice, right?

While we're not yet at the point where technology can do our jobs for us, there are some pretty sophisticated tools out there to help us build better than ever before.