


# The 3 Hottest Technologies Transforming the Construction Industry



It's no secret the construction industry is late to the digital age party. In fact, many of you still haven't arrived. However, as the industry continues to rapidly change, keeping up with technology is key to remaining competitive and relevant.

**These are today's top 3 technology trends that will change the way we design & construct buildings.**



## ARTIFICIAL INTELLIGENCE

*Say goodbye to labor shortages and accidents*

Out of all the technology on the horizon, Artificial Intelligence (AI) is getting the most buzz based on the potential it represents to make a huge impact on every phase of construction. Whether we're talking about the onsite advent of autonomous equipment or the continued automation of Building Information Modeling (BIM), construction is ripe for major improvements as AI develops further.

Autonomous equipment is equipment that is aware of its surroundings and is capable of navigating and operating without human interaction. Some predict that one not-too-distant day, construction sites will be entirely built by unmanned machines and robots.

Imagine using BIM to overlay 3D models with details on scheduling and cost (5D BIM). Through augmented and virtual reality, you "build" the project, foreseeing and eliminating building challenges and delays before ground is even broken.

Then, once you get onsite, drones survey construction sites, transmitting data using those 3D models to guide driverless robots and equipment. Drones will undertake tasks in hard-to-reach or dangerous locations, eliminating safety hazards and costly accidents. Unmanned machines will communicate with each other, creating sites that run like well-oiled machines.

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### WEARABLE TECHNOLOGY

*The season's hottest fashions have arrived*

While wearable technology is available today, it'll become more accessible and powerful as it develops. From smart glasses and watches to bionic suits, wearable technology will increase productivity, reduce risk and streamline communication between on-site and off-site teams.



### SMART HELMETS



All active construction sites require safety helmets. While still providing that safety, technology is capitalizing on this opportunity.

Smart helmets will provide users guided instructions on tasks so jobs can get done quicker with fewer errors. Workers will share information and 360-degree views of the project with remote experts to resolve on-site issues immediately.

You'll be able to see with thermal vision, creating safer environments and improving maintenance and monitoring. Field teams will have access to instant communications with office teams with access to project drawings and 3D models.

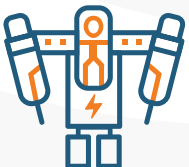
### SMART VESTS



Smart vests are already being used to save workers lives. They can measure a worker's biometrics and instantly alert other workers if health issues arise. They'll assess the safety of their environment and alert workers of environmental hazards. An emergency button can alert others of an accident or medical emergency.

Smart vests equipped with GPS tracking will communicate with nearby equipment and machines, creating proximity alerts and eliminating potential safety hazards—imagine the impact on worker safety for highway construction jobs.

### BIONIC SUITS AND EXOSKELETONS



Bionic suits or exoskeletons are making it possible to have super strength on job sites. Today, bionic suits can increase a person's ability to lift, making heavy tools feel weightless. Workers will be able to do more with better results, increasing productivity and decreasing work-related injuries.

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### BIG DATA

*Answering questions you didn't even think to ask*

Construction projects generate massive amounts of data, that can be leveraged to cut material waste, shorten build times, predict risks and trim costs. As technology advances, opportunities to collect and utilize more real-time information will grow as companies utilize equipment, logistics, workers and even buildings themselves to gather information.

Advanced analytics will represent information from design, cost, schedule, materials, construction, environmental impact, location, and even weather. You'll be able to more easily analyze that data to identify patterns and trends and provide incredible insights into the construction process.

Architects, engineers, and owners will use 3D models to immediately evaluate the impact of design changes. This will shorten the planning and design phase significantly and create a truly collaborative process between the owner and the design and construction teams.

Project owners and managers will make increasingly well-informed decisions using real-time data. Contractors will be able to optimize construction schedules to reduce fuel use and minimize site downtime.

Contractors and material suppliers will use traffic patterns, weather and project schedule data to determine best times and routes to optimize product deliveries.

Projects will be built more efficiently and at a lower cost than ever before.

### STILL NOT PLANNING ON ATTENDING THE PARTY?

Technology is being used to address challenges that have plagued the commercial construction industry for the past decade: an aging workforce, skilled labor shortages, and the lack of efficiency, productivity, and innovation.

The impact technology will have on our industry is inescapable. New challenges and opportunities will arise, and while some jobs will disappear, other new, exciting careers are being created.

Technology can be a boon for the construction industry – it's up to you and your company to embrace and invest in it or run the risk of being left behind.

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