

# Technology and the Future of the Construction Industry

The industrial revolution of the mid-eighteen to the nineteenth century revolutionized the way humans build things and gave birth to the growth of economies. Like every other sector, the construction industry was not left out in this advancement and was, in fact, a frontrunner in the earlier revolution.

Today, innovations in technology are revolutionizing the world and introducing new concepts to the way we do things as humans.

In the construction industry, with new technologies like augmented reality, building information modeling, drone technology, 3D imaging, robotics, and cloud technology, a new frontier of endless possibilities have opened up for the construction industry.

The Jobsite is now a place where construction and building engineers and architects have better tools, better safety practices, better information, and data sharing, as well as a better overall working experience.

## Endless Possibilities

With new technologies in place, construction has taken on a dimension of endless possibilities as contractors can now approach difficult tasks with ease, which has led to the creation of construction marvels formerly impossible to achieve.

The use of drone technology in construction sites have opened up a wide range of possibilities for the contractor. With drones, construction engineers can have a bird-eye view of work progress and detect areas that need specific readjustments and input to achieve the desired overall result.

Drones also make it possible for contractors to be in one place and yet have the ability to study a specific area of construction on the site without needing to be there physically. Based on their assessment of the images relayed by the drone, they can then decide to visit the section for closer inspection and evaluation.

Contractors and construction engineers can also use drones to relay live images to the office or even to the project initiator. This ability was lacking for contractors of the past when there were no drones with high-definition imagery capability. The use of this technology helps foster synergy between the workers, contractors, and the project initiators.

## Increased Profitability

With automated solutions and advanced technologies, construction companies save by doing away with models that are error-prone and adopting processes that increase efficiency. This, in turn, helps in cost-efficiency because of fewer made mistakes. This way, the company can save a ton on redesigning or reconstructing an already constructed section.

Technology also helps construction companies to increase profit by providing the contractor with the tools to make realistic projections concerning the project. The use of technology in construction also enables efficiency in labor, which also helps reduce the company's costs. By using technology, construction companies are able to keep an accurate database and inventory of staff and equipment, which helps to eliminate unaccounted costs, fraud, or payment irregularities.

Companies can also use technology to reduce their workforce and save costs. Today, super robotic cranes are able to lift payloads that a hundred men couldn't carry in the past. With the use of smarter and advanced personal protective equipment (PPE) that records and analyses risk factors, technology also enhances the safety of the workforce by providing companies with data necessary for Health, Safety, and Environment (HSE) planning.

## **Process Integration**

The use of Building Information Modeling (BIM), cloud technology, Virtual Reality (VR), and Augmented reality (AR) gives construction personnel the ability to add share data, concepts, and information.

AR helps the different personnel by adding digital elements to a live view via the camera on smart devices. What this means is that AR integrates both virtual and physical realities to create more advanced models and more accessible information. AR is a step ahead of the VR immersion experience that shuts out the physical world.

By using cloud technology, construction companies can bring together the architect, contractor, building engineer, and the project initiator to have a synergy of ideas geared towards the completion of the project. This circulation of ideas enabled by technology promotes innovation in the construction industry and is known as the data ecosystem.

## **The Future**

As technology continues to improve with the introduction of new innovations, the construction industry is becoming more and more competitive. Companies that adapt to the use of these technologies will have a comparative advantage over companies that still rely on the old and obsolete ways of doing things.