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The Impact of Technology on the Construction Industry

3 Min Read

Advanced technologies like semiconductors have seen exponential growth since COVID-19, and now we are seeing the evolution of artificial intelligence, machine learning, automation, and advanced robotics. The construction industry must evolve and take advantage of technology to improve operational efficiency and remain competitive. The following trends highlight an inflection point for the construction industry.

The emergence of building information modeling

Building information modeling is creating a digital facility model, allowing construction teams to simulate processes, perfect workflows and predict challenges before they arise. Building information modeling in the planning process can be beneficial to these construction projects. Information modeling can lead to faster project completion, reduce the cost of the project, and allow construction companies to be more competitive in the market.

The use of offsite manufacturing

In combination with building information modeling, the construction industry also needs to utilize offsite manufacturing. Offsite manufacturing has benefits, including saving time and money, providing a controlled working environment, and creating a safer production of subassemblies. Due to the size and complexity of new projects, like semiconductor builds, using offsite manufacturing can allow construction companies to gain advantages in the industry.

Automation and robotics to improve efficiency

Automation and robotics present a significant opportunity for contractors to increase production and efficiency. Suffolk Technologies is a venture capital platform that works with startups to pilot and scale their products on-site. KayaAI and Rugged Robotics automate and streamline the procurement process and perfect field layout, respectively, to increase production and efficiency. We expect to see more similar ventures as construction undergoes a technological transformation.

Renewed focus on sustainability and water conservation

Sustainability is a key factor in all industries these days, including the construction industry, highlighting a need for energy-efficient designs and water conservation technologies. Innovative construction techniques, including recycling systems and rainwater harvesting, can be instrumental in helping reduce waste and improve sustainability. Water Intelligence (WINT) is an artificial intelligence that detects and stops leaks by alerting users of the leak and automatically shuts off the water. Using energy-efficient designs and water conservation technologies like WINT, we can reduce operational costs and contribute to global sustainability goals.

Non-traditional building materials become more common

Material selection has become more important as designs and technologies promote non-traditional building materials. Using non-traditional building materials like recycled or eco-friendly materials produces less waste and often has better performance than traditional building materials. This also increases the sustainability which can create a competitive advantage.

Technology implementations create new opportunities for employment in construction.

Developing the workforce to implement new technologies is just as or even more important than the actual implementation. Construction companies must establish training programs to upskill their workforce to manage the new technology and to ensure that new team members want to join the field. Partnerships with educational institutions can facilitate the necessary training to promote the construction industry and ensure a steady pipeline of skilled workers for the new era of skilled construction.

Embrace technology

New technology will propel the industry forward and create competitive advantages for those who plan and prepare to utilize it. Technology has been shaking the business landscape for decades and is now disrupting the construction industry. Resistance to this change may negatively impact your business. Understanding the opportunities of new technology and how it may impact your business is a major first step in becoming an industry leader, increasing profit margins, and even addressing labor gaps.

Tags

Technology, Risk, and Compliance, Tech Solutions, Technology Innovation, Construction