

Media News

Top 5 Construction Technology Trends in 2021



Traditional methods of construction are undergoing rapid and constant change. Engineering and construction professionals are increasingly receptive to the notion of digital transformation. Adoption of innovative technologies as identified above have immense benefits for all parties. Dr. Angus Maxwell, CEO and Founder of Maxwell GeoSystems states “We are at the forefront of this meteoric expansion in Construction Technology. As the industry embraces digitalisation, we are helping our clients to transform their processes without re-inventing the wheel”.

The global construction industry is expected to reach an estimated \$10.5 trillion by 2023, with a forecasted CAGR of 4.2% from 2018 to 2023 (*Source: Global Construction Industry Report*). APAC is expected to remain the largest market during the forecasted period, predominately due to the increasing levels of urbanisation, higher expenditure on infrastructure development, along with affordable housing projects. With 2020 being a difficult year for the global engineering and construction industry, things are looking more positive with digital transformation taking place rapidly. Technology will continue to see greater adoption as construction leaders deal with improving productivity, eliminating inefficiencies, and adapting to a younger workforce of digital natives that expect to work with technology.



Here are the 5 construction technology trends to look out for in 2021:

1. Big Data:

With over 2.5 quintillion bytes of data created each day, data has become the oil of the digital era. The pace at which the construction industry is progressing, this number is bound to increase. Data can be highly beneficial for analysing patterns and probabilities of construction risks and avoiding them. Collection of data via sensor inputs from machines can help determine how to use fuel more efficiently in order to lower costs and ecological impact. Data can also be put back into BIM systems to schedule various activities as and when required.

Maxwell GeoSystems' MissionOS innovative software platform is already helping transform infrastructure throughout planning, design, construction and asset management phases. It's totally configurable data structure, IO and processing framework easily handles the large data sets generated.

2. Cloud Technologies:

Forrester Research indicates the global public cloud infrastructure market to grow by 35% to USD120 billion in 2021, with the cloud taking centre stage in the recovery from the pandemic. For the construction industry, this technology has the potential to access, use, modify, exchange and manage data stored in remote servers. Sharing data in real-time in construction sites is highly beneficial, as it avoids delays and ensures project completion in time, all whilst saving costs.

The MissionOS is fully cloud based and accessible through a variety of devices and browsers. Optimised for virtual elastic servers we can provide solutions from a handful of data sources to tens of thousands either in single portals or as part of an enterprise platform.

3. Internet of Things:

The overall enterprise IoT spending grew 12.1% in 2020 to USD128.9 billion, with APAC seeing the fastest growth (17%) followed by North America (14.9%). IoT spending for enterprises is expected to grow by 24% in 2021, despite the impact of COVID-19 pandemic. There are various applications of IoT in the construction industry such as the use of smart machines, which can perform repetitive tasks and maintain itself. This boosts efficiency and productivity whilst reducing carbon footprint. It further helps increase safety with geo-location technology able to identify hazards, and reduce ecological damage.

The MissionOS system provides a collaborative platform for display and interpretation of construction data, easing collaboration among all key project stakeholders. It has been supporting business continuity for many global projects during the Covid-19 pandemic



4. BIM (Building Information Modelling):

The Global Building Information Modelling (BIM) market is estimated to reach USD14 billion by 2023, registering a CAGR of 17.5% over the forecast period of 2018-2023. North America is expected to be the market leader over this time period, capturing over 30% of the market. Although the adoption rate of BIM has been relatively slow over the last 35 years, a report by McKinsey found that this technology has now achieved an adoption rate of 60%-70%. Using BIM technology, companies are able to maintain budgets and keep tight construction schedules.

Maxwell GeoSystems' MissionOS system allows projects with BIM at their core to handle automated processes for the generation of Industry Foundation Classes (IFC) classified files, for the automatic updating of BIM environments hosted by clients, their contractors and consultants alike.

5. Augmented Reality / Virtual Reality:

The global augmented reality market was valued at USD 17.67 billion in 2020 with a CAGR of 43.8% from 2021 to 2028. The immersive visualisation made possible by virtual reality paired with BIM is improving design, collaboration, and communication, allowing for architects to better showcase their design to clients. Augmented reality applications in construction are using vision-based augmented reality using markers, such as QR codes, architectural drawings and images, or GPS to overlay BIM models, installation instructions, safety checklists and more to aid workers on job-sites. AR and VR permit clients to make faster decisions because they can see and experience the layout, which leads to improved client satisfaction and increase in productivity levels.

MissionOS' dynamic "on the fly" creation of N-dimensional interactive models based on GIS selection and using fast web rendering technologies has promoted wider collaboration within the BIM space and opened the door to real time live augmented reality where there was none before.

Request a FREE DEMO now: <https://www.maxwellgeosystems.com/register>

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