Build Seamlessly with Digitized Construction

Matterport's digital twin solution makes collaboration and documentation in the construction industry simple and easy. See it for yourself.

As digitization in the construction industry continues to evolve, its stakeholders need to enhance collaboration and documentation in a way that works in an increasingly virtual world as well as one that demands more streamlined work processes.

Accurate digital twins support contractors, architects, and stakeholders throughout the entire lifecycle of any construction project. The planning, design, and building phases can all be managed within a system that integrates the digital twin with design, project, and resource management applications and quality control systems. The result is an easy-to-navigate solution for collaboration and documentation that makes digital twins an essential tool for forward-looking firms in the architecture, engineering, and construction (AEC) industry.

THE BENEFITS OF DIGITAL TWINS IN CONSTRUCTION

Although there are numerous benefits associated with digital twins, the most significant include collaboration and documentation. These immersive models allow project teams full access to critical project intelligence, giving stakeholders the tools for seamless collaboration.
"Digitization for collaboration can hugely improve communication and the sharing of information among stakeholders," says Andrew Knight, the Global Data and Technology Lead at the Royal Institute of Chartered Surveyors, "We all know construction has a number of tiers in terms of constructors, but that's also true on the design and supplier side. So, it's a very complex ecosystem of stakeholders as well as project sponsors that need to share information efficiently & effectively."

One example of efficient collaboration and information sharing is that digital twins allow project team members and stakeholders to share information, documentation, and notes from their desks rather than traveling to site to collaborate.

"What Matterport provides is a view of a construction site that can exist in a browser or as a virtual or augmented reality view," Knight said. "This helps us to really understand where we are in the correct context, to look at potential issues, and to work remotely with stakeholders in a much more collaborative way inside that virtual site."

DIGITAL TWINS IN ACTION

One company leveraging this ecosystem is Vextixs — a construction consulting business that provides clients with a variety of services including project management, engineering design, and safety consultation.

Thomas O'Malley, the company's design services technician, uses digital twins to ease communications and create a greater understanding of projects for their clients.

"The main advantage of Matterport is that it gives a visual picture that anyone would be able to understand, which can then be shared around to the other teams in our businesses and externally," O'Malley said. "This can be a huge asset to clients as it brings the carbon footprint and cost down because there is less need for multiple visits to sites."

The Vextrix team has seen success with digital twins for multiple projects, such as the full refurbishment of a building alongside the installation of a new staircase for Blea Moor — Britain's most remote railway signal box. Using a Matterport digital twin, Vextrix were able to provide the client with an as-built survey and 3D and 2D drawings that supported the design and approval of civil and structural work. This included a full refurbishment of the structure of the building alongside the installation of a new staircase and reprofiling the topography around the signal box to provide emergency services and special needs access.

"The Matterport digital twin allowed us to make only a single trip to the site, which provided our design and structural teams, as well as the client, with a virtual walkthrough of the site," said director, David Murray. "It also allowed us to use MatterTags to tag the site with the necessary information on existing and proposed works with the signal box."

Vextrix also used Matterport to carry out a 3D scan of a newly installed plant room. The Matterport scan provided the clients with a virtual walkthrough of the area to which they added MatterTags. These MatterTags included project specifications, videos, installation guides, maintenance procedures, when the equipment was last serviced, and when the next service is due.

GET ASSISTANCE FROM A PLATFORM PARTNER

While MatterTags can be used to convey a lot of information, there is often more data that is better shared in different formats. One of Matterport's partners enabling this is SIMLAB, the creator of Stages. "We love 3D, and we love how Matterport works, but we saw a real need to extend its functionality," said the founder and CEO of SIMLAB, Marek Kozlak. "We wanted to use the most popular technology in the digitization sector, which is the Matterport digital twin, and provide a new solution that would become a collaboration and communication platform for all stakeholders throughout the full lifecycle of a building. And that's how we came up with Stages."

Stages records each step-in construction progress, from the first survey to the point where the keys are handed to the building's users. Stages allows digital twins to be made at each milestone in a project and laid on one another, to create a timeline view of the project. As time goes on, stakeholders can move backwards and forwards to see exactly what was done at each step of the project. Construction teams can even overlay digital

twins on technical drawings or display the twin next to a CAD-rendered model so that architects, stakeholders, and constructors can check for compliance and call out remediations.
This ability to build more effective collaboration processes and integrate technology and systems creates a cost-effective and quick way to adapt workflows to today's digital demands.