

CUSTOMER SUCCESS STORY

Miron Levels Up Installation Verification and BIM Coordination Using Trimble's Augmented Reality Technology



Overview

Headquartered in Neenah, WI, Miron Construction Co., Inc. specializes in providing innovative pre-construction, construction management, design-build, general construction, and industrial services to multiple markets. From elementary schools to office buildings to casinos and clinics, they work side-by-side with their clients to bring their dreams to life. Kacie Hokanson and Sam Tijan, virtual construction specialists at Miron, are always on the lookout for new technology to keep the company on the cutting edge of innovation.

Installation Verification and BIM Coordination

Installation verification is very important for Miron because it enables the company to confirm that all parts of the model are being relayed accurately to the field and intervene if there is an issue. Previously, the company had been taking 2D installation drawings and comparing them to the model on an iPad to try and discern any discrepancies between the two. This was a difficult and time-consuming process, and Tijan and Hokanson were not always able to catch everything with this approach. They needed a new system that could easily confirm that the installation was being done accurately to avoid rework.

Hokanson and Tijan needed to find an augmented reality solution that could handle large models and also be accessible via their iPads so they could more easily compare the digital model with what was actually being installed in the field. Their subcontractors were also actively using modeling technology and had a vested interest in using models to accurately prefabricate items before they went to the job site.

They evaluated a few platforms from software vendors outside of the construction industry but found that they lacked the understanding of what Miron needed from a process and workflow standpoint to get the models out to the field. They also considered building their own solution but realized that would be more difficult and cost-prohibitive compared to sourcing technology through an outside vendor.

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Sam Tijan, Virtual Construction Specialist | Miron

Bringing Models to Job Site with AR

Tijan discovered some of the innovative construction technology available from Trimble and inquired about augmented reality software for iPads. Coincidentally, Trimble had recently introduced a new solution, the Trimble® Connect® AR app which runs on Android and iOS tablets and smartphones. Through BuildingPoint Midwest, a Trimble distributor focused on the construction industry, Tijan found that the solution understood the challenges Miron was facing and how to address them and made the decision to move forward with Connect AR.

Connect AR is an augmented reality app that gives building construction workers greater accessibility to 3D models in the field so they can leverage field-oriented workflows, constructible 3D models, and mixed reality to transform daily work such as assembly and inspections.

It also makes augmented reality more accessible to more people on the job site. Project managers, engineers, and contractors can visualize 3D BIM models in the real world to make complex situations, such as design reviews, issue resolution, and health and safety matters more intuitive and collaborative.

“We invest a lot of time and effort coordinating a model, so being able to see it on-site and see that everything lines up the way it is supposed to be a cool feeling,” said Hokanson. “The intriguing thing is we can validate these processes very easily when we overlay the model. We can see the pipes lined up in the model with what is actually being assembled in the field. Prior to having this tool, we didn’t have a way to convey this visually to our contractors.”

To quickly and easily position the model in the real world, a network of QR code markers can be placed around the job site for users to accurately compare as-built construction to the digital design, which speeds up QA/QC inspections and enables immediate decision making by project stakeholders.

Fingers On the Pulse

Whenever Miron introduces new technology to its employees, it can catch on like wildfire. Tijan and Hokanson have seen firsthand how the Connect AR can transform their installation verification and BIM coordination processes, and they plan to continue to use it for site verification after coordination is done and eventually have it in the hands of the workers in the field.

“Schedules are getting shorter, and we need to be able to have our eyes and fingers on the pulse of every project. We want to be more proactive so that there are no adverse effects on the schedule, and we can walk a job site and ensure installation is happening properly,” said Tijan.

Anytime Tijan and Hokanson evaluate software they know they have to invest time upfront, but ultimately, they are looking for a net gain in terms of the value it provides back to the field team and how it will contribute to the overall success of the project. “We need to extract value that far exceeds the time we put in and that is exactly what we have found with Connect AR,” concluded Tijan.

Thank you to Kacie Hokanson and Sam Tijan, virtual construction specialists at Miron Construction and the entire Miron team.