

## COMPANY

**Clayco**

## LOCATION

**Chicago, Illinois, United States**

## SOFTWARE

**Autodesk® Building Design Suite Ultimate****Autodesk® BIM 360™ Glue®****Autodesk® BIM 360™ Field**

# Upwardly mobile

## Clayco takes BIM collaboration into the field with Autodesk BIM 360

Our business model is structured around handing out iPads with the Autodesk BIM 360 Field mobile app on every job.

— **Tomislav Zigo**  
Director of Virtual Design and Construction  
Clayco

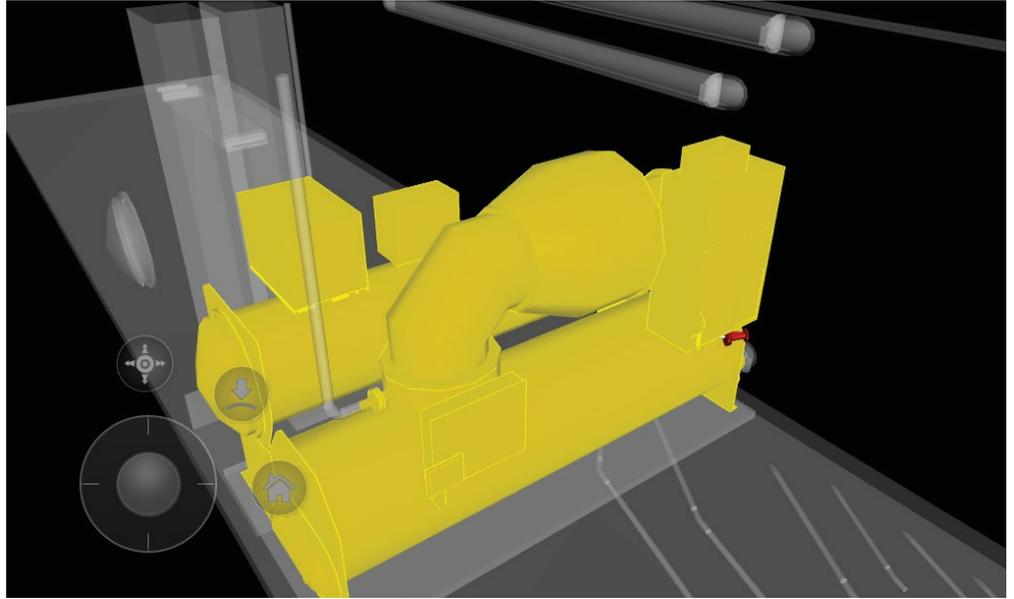


Image courtesy of Clayco

### Project summary

One of the largest privately owned design, construction, and development firms in the United States, Chicago-based Clayco provides full-service, turnkey design-development solutions for a diverse range of complex projects, including sports arenas, industrial facilities, and corporate headquarters.

Founded in 1984, Clayco generated revenues exceeding US\$900 million in 2012, and has more than 1,000 employees.

Clayco is known for integrating the latest technological advances, such as Building Information Modelling (BIM), into its design-build processes to deliver innovative building solutions. BIM is an intelligent 3D model-based process that enables the entire project team to explore a building design fully as it is being developed, before construction begins. Autodesk® Building Design Suite Ultimate, a 3D building design software portfolio, is used to create realistic 3D visualisations. According to Tomislav Zigo, director of virtual design and construction with Clayco, "Our philosophy is to integrate technology into our processes so that we can deliver the best

product to the client at a competitive price and on an aggressive schedule. We adhere to a very high standard of information exchange, encouraging collaboration between the entire project team and the owners from the very beginning when a building is conceived, all the way through to handover."

### The challenge

At the construction site, however, that real-time, model-based process lost momentum because field personnel were working with paper blueprints and other documentation. With paper-based processes, there was a risk of having outdated documents in the field, which could result in delays. According to Zigo, the company wanted to increase the speed, accuracy, and quantity of the data captured. "There wasn't much confidence that the drawings the field crew had in their hands represented the latest updates from the design and engineering team, or that they were sending the most accurate information back to the architects and engineers. We wanted to give our field crew up-to-date information."

# Clayco continuously manages field data at the job site, on-line or off-line, with help from Autodesk software

## The solution

Clayco decided to leverage BIM at the job site with support from Autodesk® BIM 360™. Autodesk BIM 360 transforms the way construction data is collected, connected, visualised, and managed. It includes Autodesk® BIM 360™ Glue®, a cloud-based BIM coordination and management service that provides anytime, anywhere access to connected project information, and Autodesk® BIM 360™ Field, a cloud-based field data management service that combines mobile technologies at the point of construction with collaboration and reporting capabilities.

From the start, Autodesk BIM 360 Field made a notable impact, at both the construction site and in the office. Field staff use Apple® iPad® mobile devices to access project management workflows, such as quality assurance (QA)/quality control (QC), commissioning, issue creation/sign-off, job tracking, and safety, as well as a project-based document library. Instead of shuffling through drawings and papers, field teams turn to iPads to complete checklists at the job site, add digital photos to mark up observations, and share that data with the entire project team. Says Zigo, “The lists give everyone greater visibility into current issues and tasks. We have the ability to respond, document, and keep track of work being performed. We’ve eliminated the separate silos of data—all actionable items are tracked in one database.”

To make BIM a part of collaboration and coordination processes for all project stakeholders, Clayco uses BIM 360 Glue to enable everyone to access the data-rich 3D BIM model at any time, anywhere. Says Zigo, “Autodesk BIM 360 Glue creates a transparent process that has accelerated multi-discipline collaboration, and improved overall project efficiency.”



Image courtesy of Clayco

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## Best practices save time, money

The combination of BIM in the cloud and on mobile devices has helped Clayco save time and increase productivity throughout the entire project lifecycle. For example, the amount of time field staff spent obtaining the information needed to make decisions was reduced by an average of 1.7 hours a week per user. And the time spent on issue creation and distribution was trimmed by an average of 80 percent—or 1.2 hours a week per issue. Finally, weekly project team coordination meetings have been reduced from two hours to just one hour.

“Autodesk BIM 360 helps you to hone internal processes and reduce redundancies,” says Zigo, “The data we collect enables us to analyse the components of our day-to-day routine across multiple projects. Instead of anticipating things that might go wrong on a project, we put processes in place to eliminate issues.”

## Field efficiency

Field personnel accepted Autodesk BIM 360 quickly, and it has become the backbone of Clayco’s field operations. The more streamlined workflow improves visibility into project progress, helping to reduce the risk of some types of quality and safety issues whilst accelerating project delivery.

“Our business model is structured around handing out iPads with the Autodesk BIM 360 Field mobile app on every job,” says Zigo. “That includes subcontractors. The issue-generating features improve accountability because now everyone is required to follow checklist guidelines and react promptly to issues being created by our subcontractors. There’s no room in our process for a lethargic approach.”

## Proactive safety and quality

Using Autodesk BIM 360 Field has helped Clayco to develop proactive quality and safety programs that allow the firm to identify trends early and reduce both job site and company risk.

“With Autodesk BIM 360 Field, we can capture the data that impacts our bottom line,” explains Zigo. “We have been able to improve our safety programs by tracking near misses or occurrences

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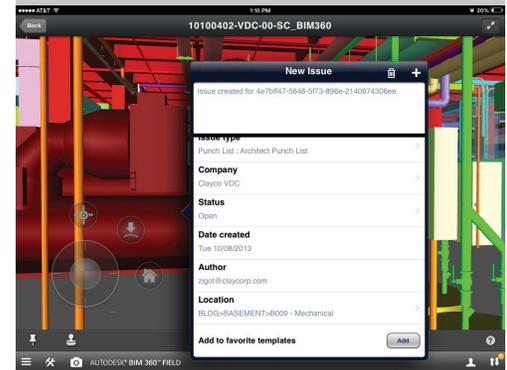


Image courtesy of Clayco

of incidents on the job sites, and use that information to put new systems in place that resolve those issues. We have also enhanced our company-wide QA processes by monitoring and evaluating our internal compliance inspections.”

## The result

Looking ahead, Zigo expects that Clayco will continue to enhance its internal processes with Autodesk BIM 360. “Our clients have come to expect efficient, data-based processes. Right now, we are only scratching the surface of what Autodesk BIM 360 can do,” he says. “It’s worth modifying your workflow to fit the service. Our processes can always get better and faster.”