CASE STUDY

Sir Robert McAlpine leverages Octave's OnSite Visualize for greater efficiency in large construction projects

Key facts:

Company: Sir Robert McAlpine

Website: www.srm.com

Industry: Construction, Engineering

Octave products used: OnSite Visualize *(iConstruct™ PRO)*

In its 155-year history, Sir Robert McAlpine has designed, developed, built and preserved some of Britain's most emblematic buildings. In recent memory, the company led the redevelopment of London's iconic Battersea Power Station and the 5-year restoration of the Elizabeth Tower, also known as Big Ben.

The projects the company is involved in extend far beyond historical monuments; they range from infrastructure to hospitals, manufacturing plants, commercial real estate and stadiums.

Identifying goals

In past decades, digital construction methodologies have revolutionized the way projects are procured, delivered and handed over. Sir Robert McAlpine was an early adopter of Building Information Modelling (BIM) to reduce project risk and improve outcomes for its clients.

The internal digital construction team plays a leading role in this effort. "We drive digital adoption on projects across all sectors of the business. One of our main objectives is ensuring consistency in the digital technologies that we use and training our project teams and supply chain on these preferred tools," explains Digital Construction Director Nick Leach.

Six years ago, the group conducted a large-scale review of its digital construction software and platforms, with the goal of identifying overlaps, gaps and blockers in the company's existing usage of digital construction tools.

Overcoming challenges

This initial audit led the team to realize the value OnSite Visualize could bring. "Drawing from our experience, we began to see that there was a missing piece in our existing toolset to enhance tools like Autodesk® Navisworks® and bring efficiencies in our day-to-day activities, such as clash detection. We also noted evolving client requirements concerning file exports and formats that we needed to meet. It was against this backdrop that we identified the potential of OnSite Visualize to help perform our routine tasks more efficiently," says Nick Leach.

OnSite Visualize's ability to integrate with, rather than replace, existing fit-for-purpose systems meant Nick Leach and his team were able to implement it and use it rapidly. "Both myself and some members of the team had used OnSite Visualize in the past. We didn't need to create a pilot - we knew what we were getting. It was easy to integrate into our business operations, and we quickly saw the benefits it brought, in our day-to-day and in our ability to meet client requirements."

Key benefits:

- Significant time savings and efficiency gains through automation and the elimination of repetitive tasks such as clash coordination.
- A capability to handle vast datasets effectively that has proven crucial for large and complex projects.
- Automation of model federation and export in various formats, facilitating client contractual deliverable requirements.
- Part of the core technology toolkit which use is mandated on every new project.

Realizing results

Automating and scheduling repetitive workflows and more efficient clash management

One of the main benefits of adopting OnSite Visualize is the ability to automate or eliminate repetitive tasks, performed on a daily basis, that require a lot of time and resources.

For example, engineers are able to use OnSite Visualize to run clash coordination workflows overnight instead of having to do it manually during their work hours, thus saving a significant amount of time.

Using OnSite Visualize's advanced clash management functionalities, the team can then quickly group clashes by different criteria, including customized properties, and generate reports. These features significantly enhance the team's ability to navigate and resolve clashes effectively.

Handling large and complex data sets and models

OnSite Visualize proves particularly essential on large, complex projects, where its ability to handle large datasets and automatically update federated models makes a significant difference. "Some of the projects we work on, such as the Battersea Power Station, will have more than 300 model files. They take up a lot of space and memory, so the possibility to handle them and have work automated outside of working hours is a big benefit for us," Nick Leach notes.

Easily exporting federated models in different formats

Another time-consuming task that OnSite Visualize could automate was a model federation and exporting it to formats such as IFC or DWG. "Some of the other software platforms that we use only work with IFC formats. OnSite Visualize's ability to create a federated model and then export that out as one IFC file has been quite powerful for us. And, when it's a client contractual deliverable, OnSite Visualize enables us to fulfill this requirement," Nick Leach adds.

Other features, such as the abilities to import external information, create links to various external filetypes or use the append data command to add, modify or delete custom data to a selection within the model, are also praised by the team.

"OnSite Visualize seamlessly fit into our business operations, and we rapidly saw the advantages it gave us, in our daily work and in our capacity to satisfy client needs."

Nick Leach
Director of Digital Construction, Sir Robert McAlpine

Moving forward

In the future, Nick Leach sees digital solutions such as OnSite Visualize as central to facing growing competitive pressures. "We're always looking for ways to gain better efficiency. As an industry, construction is becoming a tougher place, with a lot of factors impacting project delivery, and technology certainly plays a pivotal role in alleviating those stresses that we have."

To harness tangible benefits, consistency is crucial. Nick Leach notes that "People frequently move between projects and might not always stay for the full duration of a project.

If we utilize similar tools across projects and have this core technology toolkit, it significantly simplifies everyone's tasks. Whether you're transitioning from a healthcare project to a commercial office building, you're dealing with familiar platforms and workflows."

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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