Powerproject®

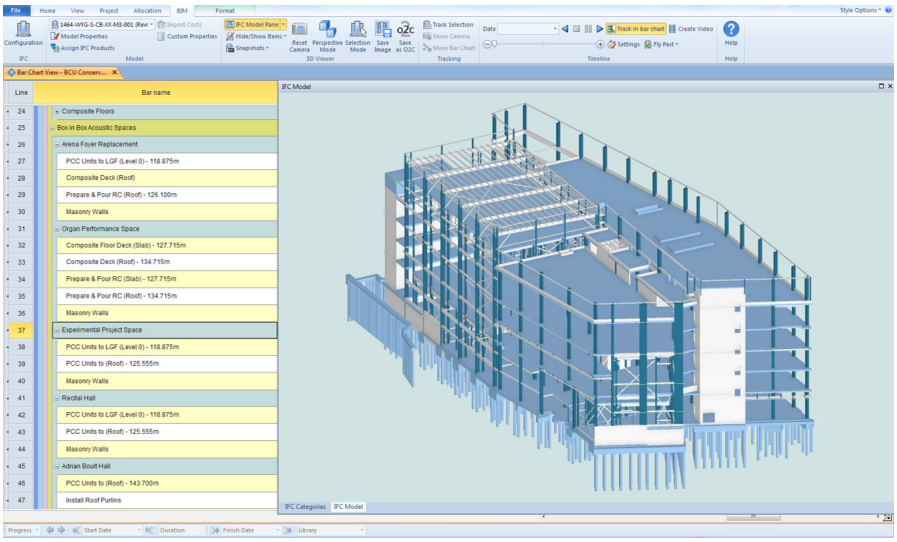
Case study: Galliford Try

Galliford Try Visualises BIM Success for Birmingham Conservatoire

GallifordTry

Summary

Galliford Try Plc is a FTSE 250 business and one of the UK's leading housebuilding, regeneration and construction groups. Winning the prestigious job of building the first new conservatoire in the UK for a generation was an opportunity to create a world-class modern building, requiring modern construction approaches. It utilised Powerproject BIM as its platform for 4D planning, using 3D visualisation, alongside excellent project management and as-built documentation, to help maintain excellent client communication alongside exemplary project control. The project is due to welcome students and teachers at the start of the 2017/18 academic year.



The £57 million project for Birmingham City University is creating the UK's first new conservatoire since the mid-1980s.

It has been designed around multiple performance spaces including a 500-seat main concert hall, a 150-seat Recital Hall and three other venues, as well as teaching facilities. Having commenced on 3rd August 2015, the project is scheduled to complete in August 2017, and is due to open for the new academic year in September 2017.

The high-profile project was designed as a BIM project from the outset. Having always had a significant belief in quality standards, Galliford Try was among the first wave of contractors to secure its full BIM accreditation.

The project's main technical challenges were presented by the client's over-arching acoustic requirements. The building has been designed using a 'box in box' construction approach, incorporating five independent steel frames for each main space, isolated from the main building structures via resilient individual anti-vibration acoustic mountings, which effectively create completely floating floors. It meant the addition of some specialist sub-contractors. Innovative methods of construction and working processes were required.

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4D BIM delivers extra perspective

The project's BIM model was designed by the architect in Autodesk Revit, into which would be incorporated numerous sub-contractor programmes. Although it would be updated regularly, and a comprehensive as-built documentation stack would be compiled by the site team, Galliford Try decided that creating close integration between the model and programme activities would be critical to maintaining control, managing progress, and assuring excellent communications during the project. Galliford Try is a regular user of Powerproject as a planning software platform; it adopted the BIM version of the software to deliver that integrated perspective.

When the project started, graduate Ibrahim Patel had recently joined the group as a planner, with the new Birmingham Conservatoire as his first project. He was given the task of creating a 4D plan that would give the project team an integrated view of

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activities and progress of the building in the form of a 3D visualisation. It provided a hub into which all the as-built information marked up on working drawings and documents could be integrated, to maintain a current view of progress. “The 4D BIM model we created in Powerproject BIM gave us a visualisation model alongside our main BIM model” he explained. “We always have lots of as-built records and drawings on paper and marked-up – we could now take that information, put it into the 4D BIM model, and gain a 3D representation of that information to see it more clearly. It instantly becomes easier to see both what is planned, and what has happened, in one place.”

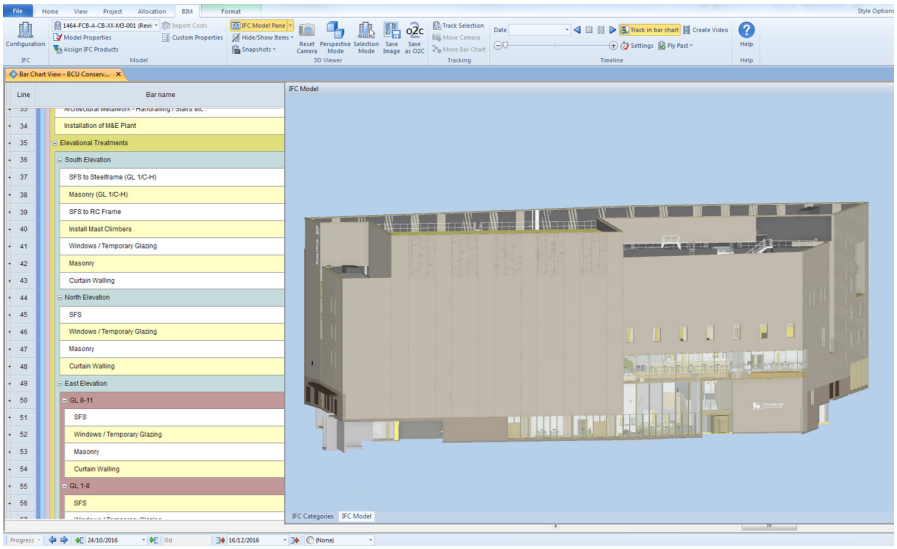
The visualisation provided an integrated view of progress for the planners, and was made accessible via SharePoint to senior management, if they required it. However, it became most valuable when used as the basis for client communication: “The visualisation you create in Powerproject BIM really benefits the client. When they come in for their monthly meeting we can easily produce a video to show the planned model versus an actual model. That shows them within just a few minutes exactly where the project should be and where it is. Without the video you’d spend lot of time trying to explain where we are and where we should be – with the video, they can see it straight away.”

Sub-contractor communication was also a beneficiary, as Ibrahim outlined: “We have progress meetings with individual sub-contractors where we pull up the Powerproject programme and go through their works. As well as discussing how far they have come along and anything they are putting in place to get back on track, we can also look ahead. We can re-sequence works to save us time in the future or avoid several contractors working in the same space at the same time.”

The software was used to link as-built information to the visualisation. “Powerproject BIM gives us a high-level overview of the project. As we get into the nitty-gritty of activities, we capture information within our as-built documents. For example: for an elevation of brickwork, we have a drawing that’s marked up to show the brickwork that has gone up each week, which goes into the as-built document stack. We can take that information and put it into Powerproject BIM, and the model then gives us a visual overview of what has happened too.”

Driving a digital future

Digital construction technologies are new to some in the construction sector. However, Ibrahim was more than confident enough to adopt the new software, having recently completed his degree in Architectural Design Technology at Coventry University. He is one of several new entrants bringing in critical digital skills at Galliford Try, and performing important roles as champions of a digital future: “As a graduate, your eyes have already been opened during your studies as to what technology can do in construction, and how it can move things forward. From my relatively limited experience, I can



> **“Without the 4D BIM model it would take a long time for someone to really grasp where we’re at. Because it’s so simple to make a 3D video with Powerproject BIM, it’s a really fast way to communicate that information.”**

already see that digital technologies could help transform the speed of information in construction, as well as benefit health and safety and other things. Quite a few graduates are employed at the group, and we are all trying to implement the technologies available. It helps colleagues who are less familiar with technology to see the benefits that are possible.” That is something that is becoming even clearer, as the company also does things such as roll out iPads for use on site, enabling it to digitise all the many operational forms required to run the site, perform inspections and write reports.

As a digital native, learning the software was an intuitive process, following a quick introduction to Powerproject from a senior planning colleague. However, Ibrahim appreciates the support that Elecosoft can provide: “The really good thing about Elecosoft is that whenever you need support or want to talk to somebody, you ring them and there’s always someone there to help. Support has always been there. I know they are listening to people too, because of the new features that are planned for the next release, which I learned about at a recent user event – some are going to make my life much easier.”

Ibrahim’s 4D planning work has been such a success that Galliford Try is now working to extend the benefits to another major contract in the same region as it utilises BIM to manage a £40m contract to deliver a major private rental sector project to deliver 323 apartments, over two high-rise blocks, in the heart of Birmingham. He concluded: “This is the first project where we have used 4D planning with Powerproject BIM, so it’s a big learning curve – it has not only delivered benefits, but is a good foundation for potentially stepping into 5D planning later. This project was a starting point. Now we’ve seen what it can do, we can roll it out to further projects. Another graduate planner is starting on the next Birmingham project, and I am assisting him where possible in implementing 4D planning with the Powerproject BIM software.”