

Case study: Interserve

Interserve Makes Time for Excellence at University of York



Summary

Interserve knew that delighting the client at the University of York was vital. A tight timeline and complex connection to the existing Biomedical and Natural Sciences building meant a need for precision programming as well as client care and communication. The team used Powerproject to plot out multiple programme paths, retain significant float, and adapt in real time to client requests and design changes to the Biology Phase 2 building.

Interserve's focus on programme excellence, use of 4D visualisation, and maintenance of the client relationship, helped them hand over the building on time, on budget and exceed the client's expectations.

The contract to develop the £9.5m science building at the University of York marked the first project with a new client for Interserve Construction. The University of York Biology Phase 2 project was the design and build of a new three-storey building housing teaching facilities, laboratories, interactive spaces for students and a student administration centre, as part of a £16m development at the University of York's Heslington West campus.

From the outset, Interserve prioritised the client relationship. The University



had invested in 20 new buildings on the same campus in recent years, as well as undertaking a major expansion of its campus at Heslington East.

Project manager, Oliver Robinson, not only delivered the project on time and budget, but hit all the relationship goals too, gaining a Gold Medal in the Construction Manager of the Year Awards as a result. He used Powerproject software from Elecosoft to maintain precision timeline control, evaluate numerous potential programme paths, and evolve the programme in real time to meet challenging, and ever-changing, client expectations.

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Making time

The bid team had developed an outline methodology for approaching the works, but the timing in the plan was very tight. With an immovable completion date in September 2016, for the start of a new academic year, the project leader was concerned that any delays might create risk both to the timeline and to the relationship.

The first challenge was therefore to find time to reassess the programme and identify areas in which time could be saved. The team looked at different value engineering options and ways of reducing risk in the programme. Interserve negotiated an enabling works package that involved re-routing major services, including gas and a fibre optic cable, meaning that an additional six weeks was saved in the main contract. The team also looked at value engineering options and ways of resequencing the works to reduce

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cost, lower risk, and bring further time flexibility – allowing them more time to build the relationship with the client and find out what was most important to them.

Finding float

Next, it was important to re-evaluate the programme itself. Oliver told us: “I worked with the project planner to reassess the construction programme and look for ways to maximise and find additional float. At one stage early on I must have had eight or nine programmes, all concurrent. The way Powerproject works you can link them all together, overlay them and show them easily on one page. I had them all running at once to see what the impact of changing certain things would be on the end date and how the sequencing would be affected. We explored different types of craneage and frame designs, and looked for ways to bring work forward – for example, altering the frame design so it was watertight sooner meant that internal fit-out could start earlier.”

Oliver performed ‘what if’ analyses to assess the impact of various alternatives in the longer term. It allowed him to evolve the programme, make decisions and switch tracks to implement changes, with full knowledge of the impact on completion.

Precision downtime

The project had several factors that created a high reliance on the programme software. Powerproject was used not just to overcome each hurdle, but to help support crystal clear client communications, and demonstrate to the client the impact of each restriction and challenge.

The client had some unique requirements about the times when building work could be carried out. The academic calendar not only created a hard deadline ahead of the new academic year, but also meant there would be examinations during the construction period which meant noisy works had to be rescheduled. The new building was also situated amidst three live buildings, incorporating existing research facilities complete with in-situ experiments that would be highly sensitive at certain times, to noise, dust

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and vibration. The impact of these periods of down-time could clearly be shown on the programme.

The location and difficult access of the site also created logistical constraints. The programme was amended to reflect logistics considerations with additional programme bars added to monitor resource and storage.

Working ahead of time

Client communications were managed through regular monthly meetings and progress reviews, involving not just the client’s project manager but also their clerk of works. Powerproject was used to demonstrate progress in a way that could be easily seen and understood. The team was able to show that it was running not just on time, but ahead of time, all the time. Oliver explained: “We worked to a target programme which was 10% faster than the contract programme. In effect we stayed five weeks ahead at all times. By using Powerproject we could easily monitor things and read droplines off the

programme. When the client came on site to check the progress, they could clearly see that we were substantially ahead of the programme for the majority of the project. When we hit the odd inevitable snag, such as difficulties linking the fire alarms between two buildings together, we had breathing space and the lag enabled us still to complete on time.”

The relationship between Interserve and the University became positive quite rapidly, due in part to how the project team responded to the user group. Oliver said: “The stakeholder group at a University is always large, so there was an inevitable barrage of requests, filtered through the client’s project manager, as stakeholders made plans for the building’s usage. This could mean slow decisions, and it’s important to understand the reasons and not get frustrated. We decided to help, and got actively involved in stakeholder decisions, exploring them in the programme.”

Offsite connections

The new Biology building had to connect physically to the Biomedical and Natural Sciences building in two different ways, with an atrium linking the two buildings and link bridges on both upper storeys, to enable students to move freely between the spaces.

Aside from the delicacy of connecting to a live environment featuring ongoing research, and a building that was



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still under warranty, there were other practical challenges too. Coordination of existing and new M&E services was one of these, since the systems had to be merged. Part of the solution involved resequencing the entire connection portion of the programme, to bring the works forward to coincide with University holidays and minimise impact on staff and students.

Oliver continued: "One of the changes we looked at was whether having the M&E provisions prefabricated off-site would be better. Prefabrication makes the front end longer, because it all has to be designed and manufactured, and you can't make ad hoc adjustments on site. The benefits appear on site as M&E modules arrive in 6m length and can just be joined together, which we could see on the programme would be 40% quicker. Without software such as Powerproject there's no way you could plan the number of decisions we had to make. Making one decision, such as changing the slab from precast concrete

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to a lighter weight steel, is relatively easy. When you have multiple design decisions it's an impossibility, without software, to understand the impact on the project."

4D visualisation

The client had opted not to take on the full BIM process that Interserve incorporated in its bid. Despite this, Oliver could see that maintaining visualisation of this complicated building in 3D would be invaluable. He used the Powerproject BIM functionality, which delivers a 4D model and enables visualisation along the timeline of the programme. This helped him maintain a clear comprehension of the implications of changes, inform his communication with the client, and help keep sub-contractors on track: "We used the Powerproject 4D model in the background as a fact-finding tool. It helped us to visualise progress and build our own knowledge of that progress, even though we didn't use it to the full extent as part of a full BIM project. The project manager's job is to juggle a lot of information, process it and make the right decisions. If you have software that can help you visualise and bring it that information together in one place, that is a big benefit."

Growing relationship

Interserve used Powerproject as a direct support for client communication, keeping the client informed and engaged throughout. The team's tight

project management and efficient delivery raised not a single complaint from the occupants of the live adjoining buildings and contributed to winning two Considerate Contractor Scheme national site awards. Using programming software to the maximum enabled the team to roll with a huge number of small changes and stay at least 10% ahead of the client programme throughout. The University was delighted with finished project and Interserve has since completed the £17m three-storey Piazza Learning Centre development on the University's East campus, which was also handed over, on time, to a very happy client.

About Elecosoft

Elecosoft is a leading international provider of software and related services to the architectural, engineering, construction and retail industries.

Our core product, Powerproject, provides solutions for managing any size and any type of project and is widely recognised as one of the world's leading project management software solutions for construction.

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