

Tantek 4D Successfully Manages Construction of Tallest Modular-built High-rise in the World

SYNCHRO™ Applications Helped Visually Communicate
Complex Tasks and Project Methodology

BUILDING A TWO-TOWER STRUCTURE IN SOUTHERN LONDON

Tantek 4D is a digital engineering company headquartered in Ireland. The family organization has provided an unmatched range of services within the architecture, engineering, construction, and operations industries, assisting clients with digital technology solutions from design conception through to project completion. They specialize in creating 4D digital simulations of pre-construction plans for the most complex projects across Ireland, the United Kingdom, and Europe.

One of their largest projects is a high-rise building on College Road in the Croydon section of London. The project will produce the tallest modular-built high-rise in the world with two towers: a 49-story tower (Tower A) and a 34-story building (Tower B)—including basements. Tower A will include 817 co-living units while Tower B will include 120 residential units, a café, and community-use areas. These buildings will provide much needed accommodation in the area, as well as be within walking distance of several key areas and public transportation interchanges. Previously, Tantek 4D had worked with the client to deliver 4D simulation to an apartment complex and shopping center. Having already worked with the client and these types of projects, they were entrusted with managing and delivering the complex construction planning for this project.

SIMULATING CONSTRUCTION FOR BEST DELIVERY RESULTS

To ensure successful project delivery, Tantek 4D wanted to simulate the construction of the high-rise to test not only the robustness of the developed schedule, but also the completeness of the 3D models. They wanted to clearly demonstrate

the construction sequencing of the 2,000 modular units being installed on both towers.

However, they needed to find software that could provide the visual capabilities and range of model interoperability required for this complex building. They also required software that would provide the highest 4D simulation quality while still allowing importation of several 3D model formats. Additionally, with a team of 10 employees working closely together, the software needed to allow for collaborative workflows with updates in real time.

CREATING A 4D BIM MODEL FOR ORGANIZED DATA AND STREAMLINED WORKFLOWS

At first, Tantek 4D tried other software but realized they were insufficient in meeting their needs. After seeing SYNCHRO being used successfully by companies on social media and reading various case studies, they turned to SYNCHRO applications to help solve their project challenges.

The team began by importing the data from their previous software into SYNCHRO. Since SYNCHRO is interoperable with many types of external software and accepts various file types, the process was streamlined and easy to complete. Once all the data was imported, Tantek 4D was able to assign resources and respective tasks to its team, thus effectively simulating the project.

The team used SYNCHRO to create a 4D BIM model that supports several aspects of the project, including sequencing of works, health and safety management, risk mitigation, logistics management, constructability analysis, and spatial planning. The model also helped them develop a crane lifting strategy, which would have been almost impossible to do without 4D technology due to the project site's complex footprint and all the surrounding buildings.

PROJECT SUMMARY

ORGANIZATION

Tantek 4D

SOLUTION

4D Construction

LOCATION

London, England, United Kingdom

PROJECT OBJECTIVES

- ◆ To manage construction planning of the tallest modular-built high-rise in the world.
- ◆ To create 4D digital simulations of pre-construction plans.

PROJECT PLAYBOOK

SYNCHRO 4D, SYNCHRO Pro

FAST FACTS

- ◆ Tantek 4D's latest project will include a 49-story tower and a 34-story building with basements.
- ◆ After seeing SYNCHRO successfully used by other companies, they turned to SYNCHRO applications to overcome the many project challenges.
- ◆ The team used SYNCHRO to create a 4D BIM model where they could visually demonstrate this plan to stakeholders.

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- ◆ The 4D BIM model allowed Tantek 4D to increase productivity, improve safety awareness, and reduce the risk of time delays.
- ◆ By implementing SYNCHRO applications as part of their 4D BIM offering, they have increased their client base by 100% over the last year.
- ◆ Moving forward, they plan to integrate more SYNCHRO applications into this project, allowing them to better monitor project progress.

Since utilizing SYNCHRO 4D on all our 4D BIM projects, we have exceeded our clients' expectations in terms of speed of delivery, accuracy of 4D simulations, and rendering quality of the final 4D simulation. By implementing SYNCHRO 4D into our business, we have increased our client base by 100% in the past year.

- *Conor Tansey, Chief Executive Officer and Co-founder, Tantek 4D*

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Additionally, they were able to visually demonstrate this plan to stakeholders Network Rail and Transport for London, making it easier for them to understand the plan and make quick and efficient decisions. "Since utilizing SYNCHRO 4D on all our 4D BIM projects, we have exceeded our clients' expectations in terms of speed of delivery, accuracy of 4D simulations, and rendering quality of the final 4D simulation," explained Conor Tansey, chief executive officer and co-founder of, Tantek 4D.

IMPLEMENTING 4D TECHNOLOGY ON FUTURE PROJECTS FOR BEST RESULTS

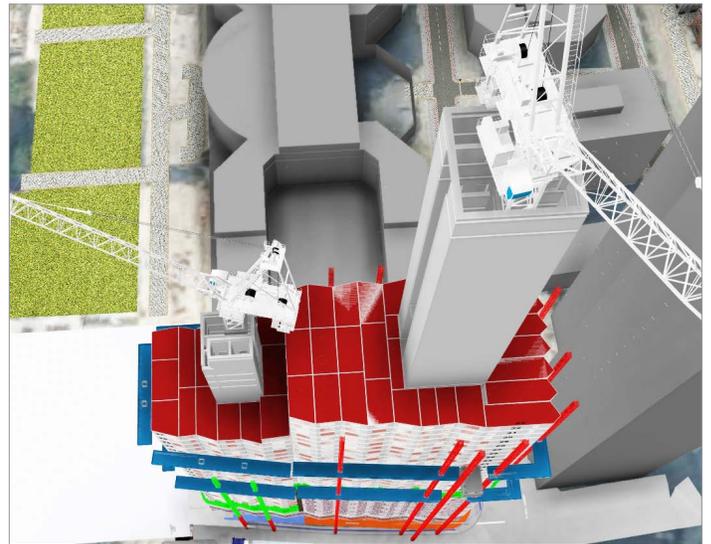
"By using SYNCHRO on this project, we have identified and rectified several sequencing errors and have also been able to identify key areas where

program acceleration could be achieved," said Tansey. "The 4D model is also being used to visually communicate complex tasks and in safety inductions." By communicating tasks in a highly visual way, they have increased productivity, improved safety awareness, and reduced the risk of time delays.

Because Tantek 4D implemented SYNCHRO applications as part of their 4D BIM offering, the organization can now compete—and win—this type of work on a global scale. "By implementing SYNCHRO 4D into our business, we have increased our client base by 100% in the past year," said Tansey. Moving forward, the organization plans to integrate more SYNCHRO applications into this project, which will allow them greater capabilities to monitor progress and optimize task completion.



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