

How OpenSpace Helps Leighton Asia Avoid Rework and Mitigate Risk

The International Contractor Successfully Piloted OpenSpace in Hong Kong and Plans to Roll It Out to Other Regions

Goal: Digitize Site Documentation to Capture Accurate Construction Images Efficiently

With operations in Hong Kong, Singapore, the Philippines, Indonesia, Malaysia and India, Leighton Asia is a leading international contractor that is behind some of Asia's most prestigious and complex projects. In recent years, the company has been enhancing its digital capabilities with a focus on Building Information Modeling (BIM), which is now required in Hong Kong for most government projects valued at over HK\$30 million.

More recently, Scott Semple, Leighton Asia's Digital Engineering Lead, turned his attention to improving the company's photo documentation capabilities. Typically, project teams on site were taking photos on an ad-hoc

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basis using their mobile phones and then either sharing them with colleagues via instant messaging platforms, such as WhatsApp, or attaching them to emails. In either case, captured images were not being archived systematically for sharing.

Strategy: Pilot OpenSpace on an Iconic Project in Hong Kong

As a member of CIMIC Group, Leighton Asia has access to a world of expertise. Semple reached out to his global colleagues within the Group to identify promising reality capture solutions.

Semple was introduced to OpenSpace and found the ease of use to be “night and day.” He decided to roll it out on a 600,000-square-foot government project in Hong Kong that was already underway.

All that is required is someone to walk the site with a 360-camera strapped to their hard hat. From there, the imagery is uploaded and stitched together, providing an experience that is similar to the Google Street View.

“It’s so simple to navigate through the time-stamped captures and compare different points in time to see how areas are progressing,” Semple said. “Rarely do I have people come up to ask further questions after I do the training.”

Leighton Asia currently has a Project Engineer to walk the full site every week to keep captures fresh and up to date by using this solution.

“When he goes back to his desk after completing a walk, the data is there within 30 minutes to an hour,” Semple said. “In our experience with other reality capture tools, it could take at least a day for the upload to complete.”

On the heels of the successful trial, Leighton Asia plans to leverage OpenSpace on two other projects. One is a data center project, where the team will use OpenSpace’s Progress Tracking feature to automatically calculate percentage of completion for framing, mechanical, electrical and plumbing (MEP) works and other items. This helps the team to quickly identify areas that need more manpower and resources to ensure on-time delivery.

Semple expects to see OpenSpace’s solution used in Leighton Asia’s other operating regions in the future.

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Results: Time Savings, Reduced Man Hours and Risk Mitigation

“The whole industry is on a digital engineering journey at the moment, and it’s not always easy getting people to buy in on digitization,” he said. “Whatever we implement has to be simple to use, and that’s exactly what the experience has been with OpenSpace.”

So far, this innovative solution is driving results for Leighton Asia in the following areas:

- **Avoidance of rework:** Leighton Asia’s BIM modelers on the government project use OpenSpace to look at views of actual site conditions alongside the model. For example, in areas that are congested with MEP works, they can double-check that the installation

matches the model before the ceiling is closed up. “This helps to avoid rework and the team is able to identify clashes in advance and address them promptly,” Semple said.

- **Time savings and fewer people on-site:** Enabling virtual walkthroughs through OpenSpace was a game-changer when fewer workers were allowed on-site due to COVID restrictions. The team can leverage OpenSpace to drop in on the site remotely instead of visiting in person. “Project teams don’t have to run around to see a particular location; it might save them an hour of running up and down each time in such a large site,” said Semple. OpenSpace has also helped keep overseas designers and subcontractors who are unable to come to Hong Kong due to the pandemic in the loop.

- **Increased productivity:** OpenSpace has enabled project teams to perform their role efficiently. This extends from the Project Engineer, who is responsible for photo documentation, to the Safety Officer, who previously had to conduct weekly site walks accompanied by five or six engineers for assistance. Now, the site walk can be done by an individual, who captures actual site conditions by wearing a hard hat with a 360 camera. A Field Note, which is automatically mapped to the floor plan for future reference, can also be logged easily.

