

How Bouygues UK Clearly Captured Site Conditions at Moorfields and UCL Centre for Eye Health



As the main contractor for a new eye care, research, and education centre, Bouygues UK needed a reality capture solution that could manage the project's scale.

"I had over 2,000 rooms on the Moorfields and UCL Centre for Eye Health project," says Lewis Wenman, Lead BIM Manager for Complex Projects at Bouygues UK. "But for each room, you had to pick a hotspot, then stop, stand still, and take a photograph. It was a struggle."

As Bouygues UK's contract with their existing provider drew to a close, Lewis wanted to see what other options were out there.

"Any tech that becomes available, I will look at it, validate it, and use it," says Lewis. "And the complex projects can support this innovation and development."

10x

more visual data
captured with Cupix



Seeking a better reality capture solution

Founded in 1952, Bouygues Construction has grown into a global leader with operations spanning continents. In the UK, where they've operated for over 25 years, Bouygues UK specialises in healthcare, education, data centres, and residential developments.

But by 2023, Lewis and the BIM team were hitting critical limitations with their existing reality capture approach:

- **Time-consuming manual processes**

Their previous platform required users to stop at each location and manually trigger each photo capture, then add a specific naming convention for each room. If they didn't, they wouldn't be able to generate progress reports.

- **Poor BIM integration**

The platform lacked proper interfaces to connect with BIM models, rooms, and spaces. "It did exactly what it said at a moment in time, but it didn't evolve," Lewis notes. "It didn't move along with the technology and the processes."

- **Paying extra for their own data**

At the end of every project, Lewis creates handover packages with site photos from construction. But their prior provider was going to charge them "a significant amount" to store their data in their cloud, so Lewis had to download a terabyte of photos to share with the client.

After researching several platforms on the market, Lewis and the Bouygues UK team set their sights on Cupix.

Balancing sophistication and simplicity

As the lead BIM manager, Lewis has been responsible for rolling out Autodesk Construction Cloud, Revizto, and other platforms. Any new platform would have to have strong BIM integrations—and Cupix had significant advantages.

“Being able to bring the rooms from the building and the BIM model into your platform was something none of the other platforms could do,” Lewis shares.

User-friendliness was just as important as BIM capabilities, given the team’s challenges with their prior solution. Cupix’s customer success team helped align the architectural plans to the jobsite captures, so Bouygues UK’s teams could walk the site without having to stop.

“In some of the other systems, when you zoomed in, the original PDF was too blurry and you couldn’t read the room names and numbers,” says Lewis. “But it was much easier to do that in Cupix.”



From apprehension to adoption

Even though Lewis knew Cupix would be easy for the field teams to use, they were skeptical. After all, being asked to walk the jobsite with extendable poles that have 360° cameras on the ends wasn’t an everyday occurrence.

Lewis’s response was straightforward: as long as workers were doing their jobs correctly and wearing proper PPE, they had nothing to worry about.

Lewis favored a gradual rollout approach, implementing features slowly and letting people get comfortable with them over time.

This organic adoption strategy paid off quickly. Workers learned from colleagues sitting next to them in the office, and soon Cupix was visible on most desks throughout the workspace.

“Once they got used to it and knew how to use it, they didn’t need us to support,” adds Lewis. “I like Cupix in its simplicity and use, and that’s how it’s got to be.”

Managing BIM complexity

The first project Bouygues UK used Cupix on was a project to build Moorfields and UCL Centre for Eye Health. Based in Camden, the brand new building is pushing the boundaries of what reality capture platforms could handle:

- **95 separate BIM models taking up 16.5 gigabytes**
- **11 stories and 47,000 square meters**
- **Approximately 2,000 rooms**

“Because it’s a healthcare facility, the complexity when it comes to the MEP is extraordinary,” says Lewis. “You’ve got the ductwork, pipework, electrical containment with 10,000 plug sockets on the floor.”

Working with the Cupix team, Lewis and his team developed strategies for structuring and slicing models floor by floor to handle the massive BIM models.

Working more efficiently

Since adopting Cupix for reality capture, Bouygues UK has been able to work more efficiently on its complex projects:

- **Increased capture efficiency**

Captures are most valuable when they’re consistent, and Lewis estimates that Cupix captured roughly 10 times the amount of photographs on the eye care, research, and education centre compared to what they could have done before. It’s a process that Lewis likens to “painting the Forth Bridge,” a UK expression describing how you start at one end, and by the time you finish at the other end, you need to start over again because the beginning is already deteriorating. It’s perpetual work, but Cupix makes it manageable.

- **Streamlined workflows:**

- **Preconstruction**

On a previous project, Lewis conducted an existing conditions survey of six buildings before they were demolished. He needed detailed documentation of cracks in surrounding buildings before piling work began, but the old platform couldn’t capture the resolution needed for crack measurements, forcing him to take 300 additional still photos on an SLR camera and manually annotate each location. With Cupix, Lewis would have “done the OmniNote [annotation], still image in it, still measured. It would have saved so much time.”

- **Safety and Golden Thread Compliance**

For UK projects, Cupix helps Bouygues UK comply with Golden Thread requirements under the Building Safety Act, where companies can be held liable for a safety violation even if no one was injured. Photographic evidence is essential for this compliance. “Our teams can’t be everywhere all the time, but Cupix lets them report issues so that the health and safety team can go out to put protective measures in place,” says Lewis.

- **Handover Documentation**

Instead of having to download a terabyte of site images to share with a client, Lewis and his team can now provide 3D models of jobsites at the end of a project, which clients can view offline at no charge.

- **Drone Integration**

On the Diagnostic Treatment and Education Centre at West Middlesex Hospital project, Bouygues UK wasn’t able to mount permanent cameras to track conditions over time. But Cupix helped arrange a third-party drone supplier who could capture the site every other week. Bouygues UK can then share the drone captures that are uploaded to Cupix within progress reports for the client.

As the innovation leader for Bouygues UK, Lewis is already spreading the word about Cupix across the broader Bouygues Construction network, sharing the platform with colleagues in Australia and France.

“You never know what you’re going to want to know until you need it at a moment in time.” says Lewis. “To know that you’ve got a backup of that past history gives some sort of insurance policy.”

