



Time to make decisions



From when the manager went to site to take the point cloud until available results

Costs saved



Estimated cost savings of rework to correct all 1100 modules, including crane cost, crane operator and 2 installers per h in case all were deviated. \$284 per module

Increase in productivity



Estimated percentage of savings in carrying out the inspection

About the project:

- Location: Madrid, Spain.
- Industry: Office building

- Work phase: Above Ground - Structure
- Data capture method: iPad Pro (3D Scanner App)

- Size: 232737.27 ft²
- Project value: \$16.5M

The problem

When using prefabricated modules for construction, an innovative building designs may represent cost overruns if the prefabricated modules are not correctly placed. In this specific project, adaptation of curved geometry to the model represented a constant concern for the owner, besides verticality of the modules throughout all the facade.

Operation process & scope

To address the client concerns and avoid unforeseen budget expenses the executed inspection required multiple captures of the facade to check all the curtain wall. The site-manager seeked to:

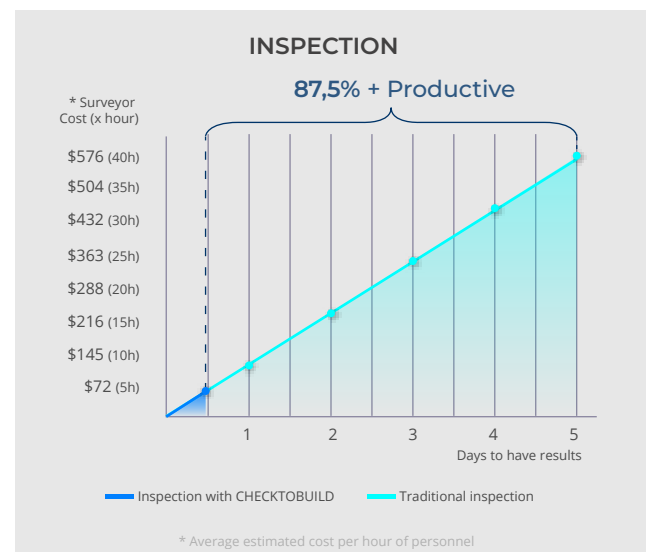
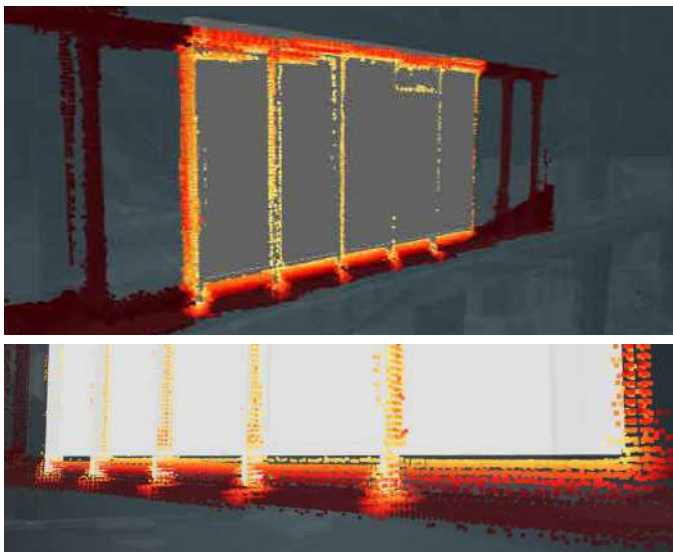
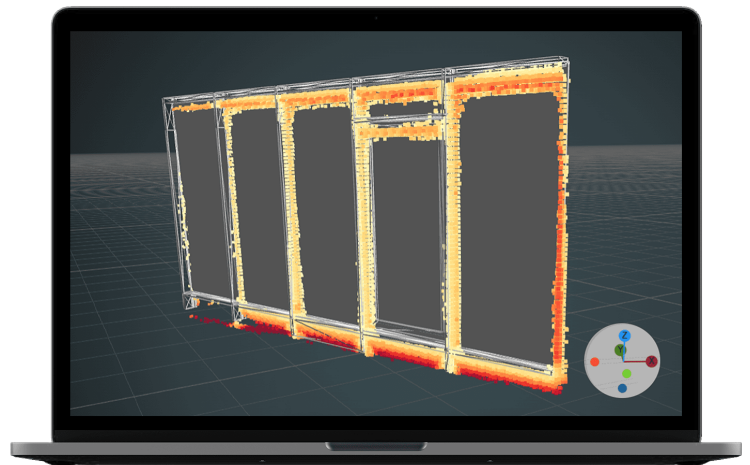
1. Execute the inspection with models from an alternative data capture application to define if it offers best results for processing with CHECKTOBUILD
2. Upload models (BIM & POINT CLOUD) to execute inspection from an iPad
3. After having results, activate the heat map on the point cloud to highlight the deviated or missing elements
4. Share the inspection to the stakeholders



Results

As the most suitable data capture technique for the client was through applications on an iPad, the inspection was processed with more than one point cloud against the BIM model, it showed:

- All modules are **properly aligned**, reaching a **92% in tolerance** within the model
- In red color can be seen the **skirting-boards that have not yet been installed** and a mesh present in the cloud that does not match the model
- Complete facade, 110ft², **adapted smoothly to the curve geometry** of the building



Conclusion

By doing the inspection the manager discovered that the alignment of the prefabricated modules was correctly installed. What's more, the results allowed us to notice the missing elements that were part of the final finishes of the curtain wall, which means that although the modules are located in the right angle and position, the progress of the element is not 100% complete.

Key findings

The application used for this inspection gave great results with the advantage that there is no time limit when a point cloud is being created. Furthermore, in relation to the BIM model in some cases it was necessary to operate on a 3D model that did not reflect 100% the reality of the project, and for this CHECKTOBUILD developed a functionality that for each detected deviation allows the client to validate it or continue considering it.

Want to know more?
We're a message away!

Contact us at info@checktobuild.com

