



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 spent time by the architect to update BIM model to match and operator to correct the error, in case all 36,909 ft of water pipes were deviated

Increase in productivity



Estimated productivity upgrade after subtract spent hours on the same inspection with traditional methods

About the project:

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

- Work phase: Above Ground - Structure
- Data capture method: iPad Pro (Sitescape)

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

The problem

Pipe installment often requires a post review process to verify proper placement. To guarantee the precise level of these elements, represents the fluid performance of the entire aqueduct and sewage system. At this phase of the project, to evaluate the alignment or adaptation of facilities to the model after its installation was crucial, to define the necessity of including costs in personnel programming.

Operation process & scope

Most pipe facilities in this project are executed by highly qualified personnel to prevent errors. Even so, the site manager expected to:

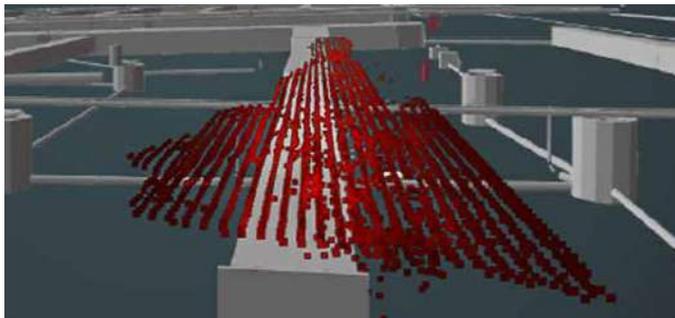
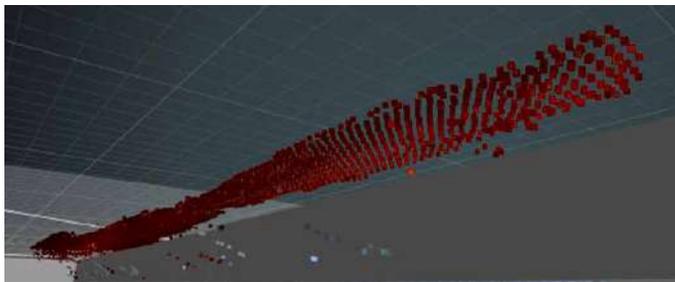
1. Test the quality of the As-built model for construction inspection
2. Upload models (BIM & POINT CLOUD) to execute the inspection on-site
3. After having results and activate the heat map in the point cloud to see is the elements are properly installed and aligned to the model
4. Share the inspection to the stakeholders



Results

Correct updating of the BIM model of a Construction project during execution time is of the utmost importance. The majority of cases where a digital inspection is being held, people tend to think that those technological processes can only be made by a BIM expert or a very qualified data capture specialist. In fact:

- The inspection was performed by the site manager, and the system found the **item just 5% within tolerance** of the model. Thus, all the point cloud is in red representing the installed element distance from the model
- The alignment of the water pipes inspected has been confirmed **8 time faster** than in traditional review methods
- The pipe is 10.05 ft tall, **3 in outside the tolerance** of the planned element

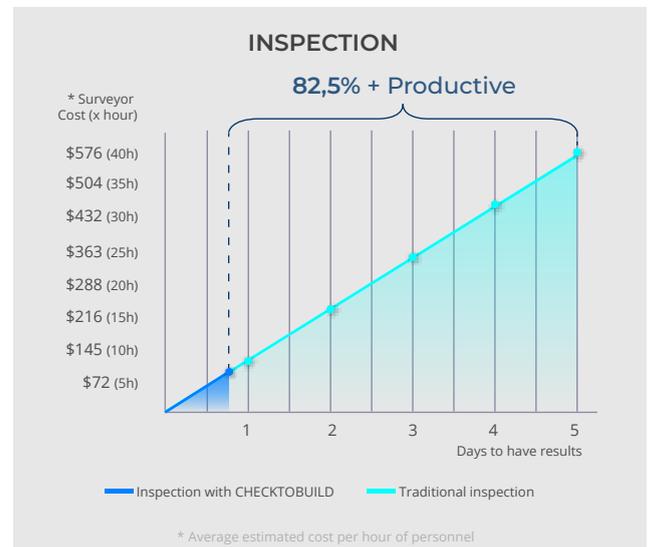


Key findings

While executing the inspection in the darkest areas of the location, the data capture technique showed limitations and problems capturing the cloud due to poor lighting conditions. Some results showed cloud errors that did not correspond to real deviations, which could easily be ruled out from the C2B Platform based on its function to classify elements.

Conclusion

The client verified all the water facilities of the plant under construction, the general result was good, finding a single element out of tolerance. Even so, the deviated pipe was higher than it should have been (9,8 ft high), and this not only implied extra costs of qualified personnel, said error also implies extra hours for the architect to update the BIM model.



Want to know more?

We're a message away!

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