Case Study

Learn how Mace realized a direct benefit of £10,375 plus additional quality, legal, and health & safety benefits with HoloBuilder.

Case Study

Overview

The John Lewis, Cheltenham project involved many site photos for different reasons: documenting site conditions, communicating progress, issue identification and for clarification purposes to name a few. The challenge is being able to capture sufficient information and also documenting, managing and locating images. With the HoloBuilder solution, we found an easy to use tool to solve all the challenges presented.

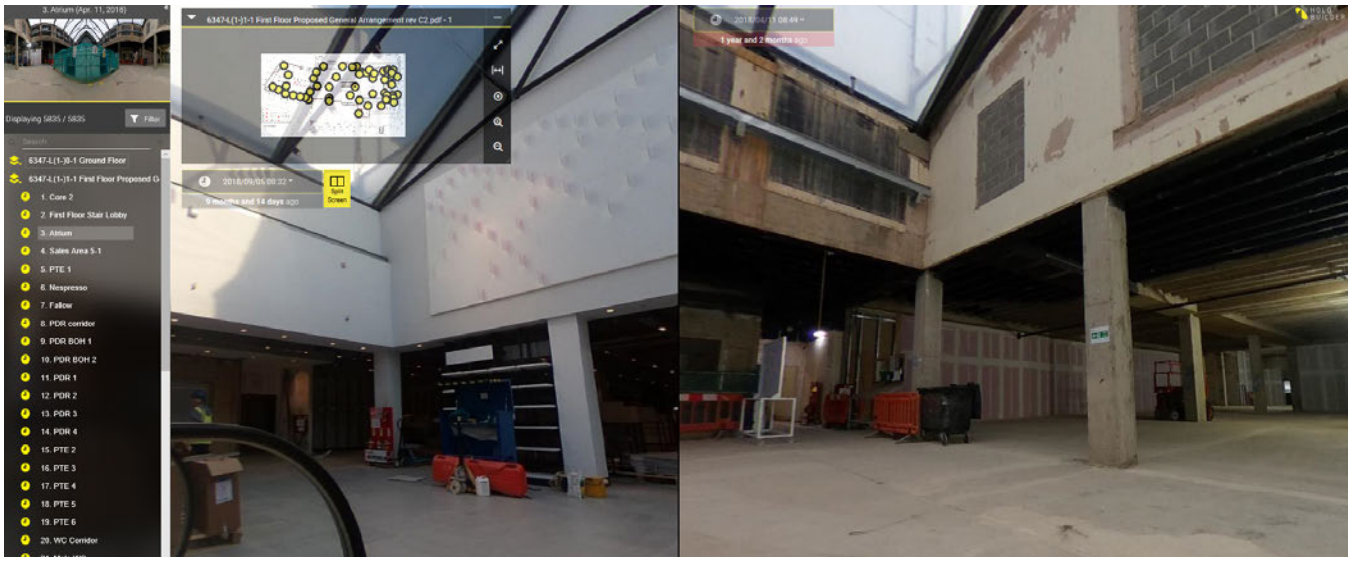


Fig. 1: Screenshot of the HoloBuilder Web Editor – Showing a SplitScreen comparison of photos taken 2 months apart.

Benefits

- **Financial**: £10,375 in time-saving, plus additional financial benefits realised in end-of-project valuations and retrospective verification of work-in-place.
- **Time**: 5 hours saved per week (165 hours project total) – reduced travel to site for the design team, reduced time to locate images, reduced time to agree on valuations/final account.
- **Quality**: Vastly improved supply chain input into constructed works improving quality, vastly improved project team input away from the site.
- **Health & Safety**: Reduced number of site visits reduced the chance of injuries occurring.
- **Legal**: Easily accessible, gapless documentation in case of future legal disputes.
- **Other**: Organised record for future review if required (during defects period).

Key Challenges

For proper documentation of site conditions, communication of progress, issue identification and for clarification purposes and numerous other reasons, many site photos had to be taken at the John Lewis Cheltenham project. The challenge is being able to capture sufficient information and also documenting, managing and locating images for current and future use.

Taking traditional photos of the correct subjects is not easy, you need to know what will cause issues beforehand. 360° images solve this issue. Even when they show the correct subject, traditional photos often remain in the camera, are lost as team members leave the project, or become disorganised in file-system photo folders, without any link or relation to the actual location on-site where they have been taken.

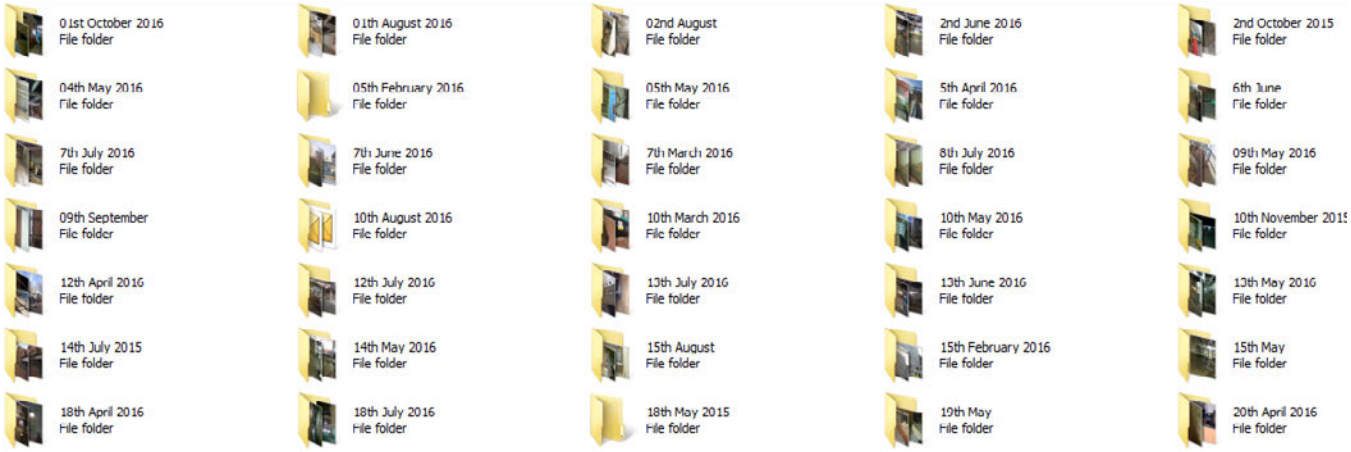


Fig. 2: Screenshot - The traditional progress photo structure within Windows

With our traditional documentation method of using traditional 2D images and managing them in folder structures, **it took our team in the field 5 hours to capture and 5 additional hours to manage all the data** per week. This is a total of 330 hours over the duration of the project time, resulting in £24,750 for the project. The resulting images were then stored in a deep folder structure that was neither easily accessible nor intuitive to navigate, making it hard for stakeholders to know what is going on.

Our Solution

With the use of a Ricoh Theta V camera, an iPad and the HoloBuilder solution, the John Lewis project team has reduced photo documentation time by 50% while also gaining a valuable deliverable that's shared with the owner, architect and other project stakeholders. Even though not the entire client team was able to attend the site on a regular basis, providing them with the 360° HoloBuilder documentation of the project allowed us to always keep them up to date nonetheless.

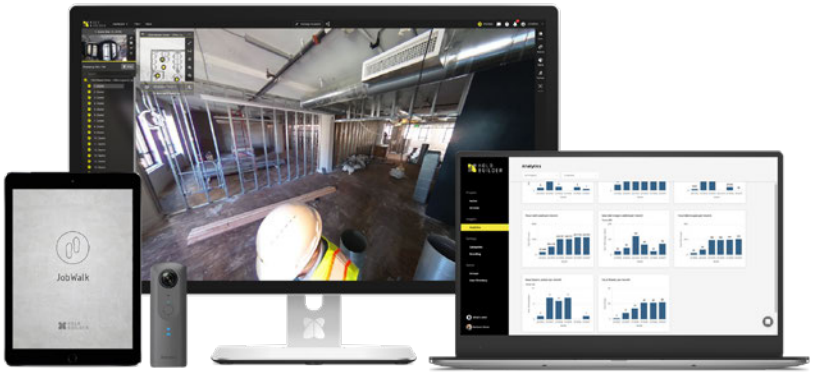


Fig. 3: The Reality Capture core components: A Ricoh Theta 360° camera, connected to an iPad that can run the HoloBuilder JobWalk App and a laptop with the Web Editor and Enterprise Dashboard for project post-production and management.visibility).

With the new documentation method of using HoloBuilder, it took our team in the field 5 hours to capture and 0 hours to manage the data per week. This is a total of 165 hours over the duration of the project time, resulting in £12,375 for the project. Including the cost of the software, a direct benefit of £10,375 could be realised. Using straightforward math, the project team was able to prove a Return of Investment (ROI) of more than six times (6x) the software cost, excluding any additional benefits that are harder to quantify such as Quality, Legal, as well as Health and Safety benefits.

Outcomes

- A well organised online based tool to view 360° photos at any time of the day.
- The ability to split the screen and compare photos taken at different project stages side-by-side.
- The ability to view progress remotely, at any time, from anywhere.
- Simple user management to allow different kinds of access.
- The ability to validate installation from the project, design and client team.
- A central catalogue of all photos taken, organized by location and time, not lost within general photo folders.
- An offline handover file of the 360° project to be able to own and store the data for years to come. Allows easy handover to the owner who does not need a subscription to view the data.

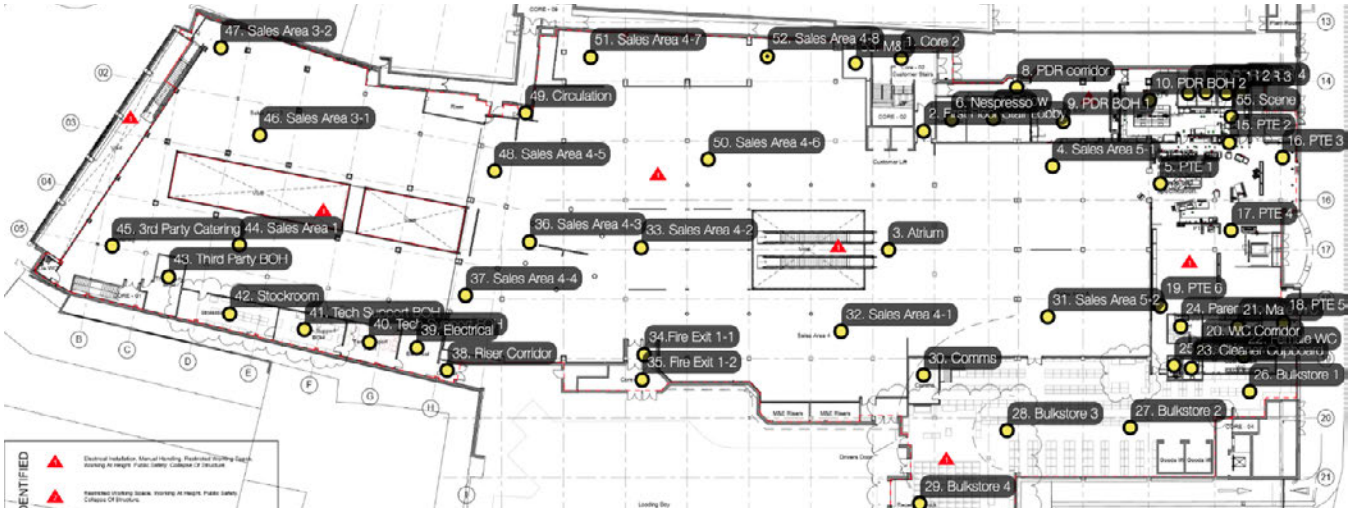
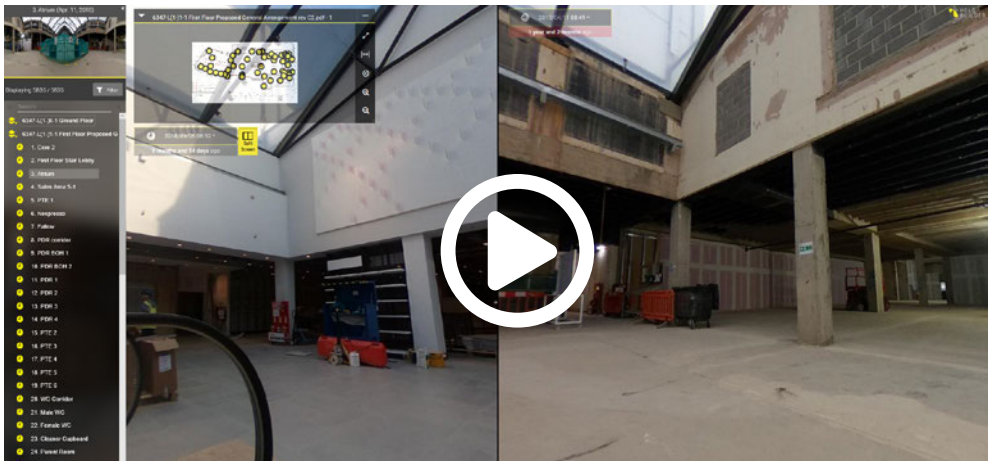


Fig. 4: Waypoints on the General Arrangements for photo locations in the HoloBuilder Web Editor (waypoint names can be turned off for improved visibility).

Best Practice Recommendations for 360° Capture from Mace

- The recommended camera is a Ricoh Theta V (approx. £400).
- Dedicate a mobile device (iOS or Android) to the process of capturing and uploading photos with the JobWalk App.
- Establish the locations for photos at an early project stage, e.g. by placing Location Markers in the HoloBuilder Web Editor for the team in the field (JobWalk Planner), and stick to those locations.
- Dedicate a few members of the team to take the photos. Depending on the size of the site the capturing process can take between 30 minutes to 2 hours.
- Make use of HoloBuilder's Web Editor "automatic face blur" function, which (when activated) blurs out all faces in an image after capturing and omits the risk of faces being visible in the images. "Manual blur" also exists if some faces are not fully detected or other areas need to be blurred out.
- Create well-structured categories for your images right from the start to have clarity and be able to use filters, later on, to share specific information faster.
- Access and manage all projects from HoloBuilder's Enterprise Dashboard.
- Add the HoloBuilder Partner Card to your BIM 360 Project Home Dashboard. The HoloBuilder Partner Card allows for 360° views of the jobsite directly on the BIM 360 Project Home Dashboard, which is only one of the features of HoloBuilder's deep integration with Autodesk BIM 360 Next Gen.

Fig. 5: An overview of the simple and straightforward HoloBuilder documentation workflow.



Watch this video to see how Mace Construction uses HoloBuilder to compare documentation captured over time.