

Hensel Phelps saved a total of 5,304 hours annually by using HoloBuilder rather than traditional photo capture methods.

## BACKGROUND

Hensel Phelps is a general contractor headquartered in Greeley, CO that focuses on four key pillars within their business: People, Process, Partnership and Technology. One of their most recent projects is the \$1.2B design and construction of the San Francisco International Airport's (SFIA) Terminal 1. The project includes improved spaces for passenger check-in, a consolidated security checkpoint, a re-composure area, a new common use Baggage Handling System at baggage claim, and a new mezzanine with connections to the AirTrain and the Central Parking Garage. The project will be under construction for 5 years with an estimated completion in December 2022.

## CHALLENGE

In the past, Hensel Phelps has used one of two process for photo capture, either a site plan with standard images locally stored on a computer or an FTP site with 360° images that are manually hyperlinked. Both workflows involved manual processes that required one person to take full ownership of the documentation process for the entire project. This would be problematic for a large project such as SFIA Terminal 1. Finding specific images at a later point in time was a time consuming task that sometimes resulted in no helpful documentation.

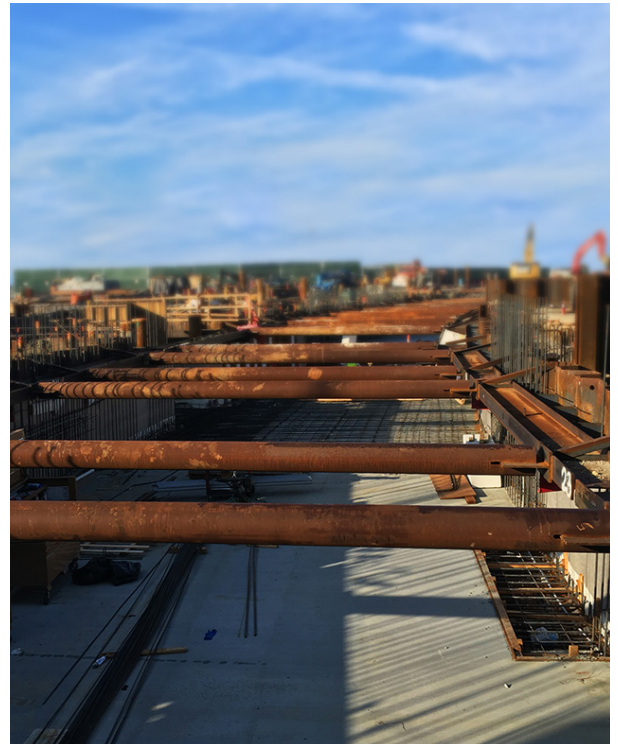
## SOLUTIONS

For the SFIA T1 project, Hensel Phelps wanted to integrate Reality Capturing, Computer Vision, and AI technologies within their workflow. Co-developing new technology is important for the company to secure ROI and gain a competitive advantage. Over a period of 1 year, Hensel Phelps engaged with HoloBuilder to co-develop reality capture features. The teams held two product development meetings per week, one in the field to test the new features and one in the office. In order to improve the previous photo documentation process, the two companies focused on two areas of improvement:

- Collaborative photo capture in order to efficiently cover large projects
- Image Content Categorization to quickly search and find specific photos by activity

## RESULTS

Today, each of the 17 field engineers are responsible for documenting their own area on site, which can be independently captured and synced to the cloud. The ability to work collaboratively and divide up the site amongst many field engineers was made possible by the co-developed collaboration feature. Together, the team works to update project imagery on a weekly basis, covering 1 million square feet. The photo capture process is now a shared task amongst the team with 1 assigned project administrator, rather than the previous workflow that relied entirely on one individual.



**“The SFIA T1 Center Project is using HoloBuilder to organize and better present our progress pictures. The ability to locate the picture on a plan view document and sort the pictures through time makes for a much more intuitive process.”**

-Andrew Cameron, DBIA, Project Manager

HoloBuilder automatically organizes visual information throughout all phases of construction by location and time. The Hensel Phelps team also highlighted the importance of quickly searching for 360° photos by content. The Categories feature addresses this process by adding a Category to the series of photos captured during a site walk. The photos can then be organized by a particular activity or during a certain phase. For example, each step of the QA/QC process can be thoroughly documented and if the images need to be referenced at a later date, they are easy to find.

The following table highlights the annual time savings with HoloBuilder compared to the previous construction photo documentation process.

FTP Site & Hyperlinks	FTP Site & Hyperlinks	HoloBuilder	<b>Savings</b>
Photo Capture Process	10	4	<b>6</b>
Annual Time Spent	8,840	3,536	<b>5,304</b>

*This calculation compares the previous process of manually uploading traditional photos to folders and creating hyperlinks on an FTP site versus HoloBuilder's Jobwalk app for capture and upload. It assumes that if 17 field engineers carry out the task weekly, HoloBuilder would provide an annual savings of 5,304 hours.*

What was once an administrative manual task of organizing images in the office, can be done automatically after capturing images in the field. The result provides a digital record of all construction activities that can be shared with all project stakeholders. The HoloBuilder project helps the Hensel Phelps make informed decisions as well as verify work performed.

HoloBuilder allows the team to spend more time on other tasks and provides an as-built deliverable to the owner that far exceeds the construction progress documentation requirements.