HOLO BUILDER   **TotalView**

Case Study

TotalView uses HoloBuilder to capture site safety priorities for more effective planning and investigations.

Case Study

Overview

- Savings of up to 120,000 hours/year in client costs related to travel, rework, and poor communications
- Reduced exposure to high risk, remote locations
- Photo capture and upload 20 to 30 times faster with HoloBuilder technology
- Incident recreation accomplished within 1-2 days for client evaluation

Benefits

According to the most recent data from the National Safety Council, in 2017 there were over 4,400 preventable injury-related deaths and 4.5 million medically consulted injuries due to workplace incidents in the United States. The costs for these incidents were over $161 billion. It's these kinds of statistics that TotalView is impacting in a positive way.

Located in Alaska, the team at TotalView started with an idea to use 360° reality capture technology to improve how industrial businesses approach their safety training, planning, and information sharing. They knew they wanted something that was accessible to everyone from those familiar with the facility and its design to upper management who may be geographically removed. LiDAR and 3D modeling software were not the answer.

TotalView captures 360° photos to map client facilities and job sites, and create a virtual walkthrough of the space. They embed Process Information Elements to give users access to documents, SOPs, maintenance records, and other necessary information without leaving the virtual environment. They do this using the HoloBuilder JobWalk app to capture the 360° photos, and the HoloBuilder platform to build out the virtual walkthroughs.

"HoloBuilder took my company from concept to product. We've built revolutionary scenarios for client use in areas of training, emergency response planning, project progressing, and more – HoloBuilder has been the foundation of my company."

Arthur Jensen, CEO of TotalView

While much of their work today is in Alaska and the far north, TotalView sees applications for their technology globally. The lessons they're learning in extreme conditions will help them deliver solutions in other situations and environments.

| 120,000 hours	20 to 30 x	1-2 days
of working time saved per year	faster photo capture	for incident recreation

Overcoming challenges

Investment in safety varies significantly across industries, but some studies suggest that $1 invested in injury prevention can generate returns between $2 and $6. More importantly, proper planning and training can make workplaces safer.TotalView is focused on helping clients overcome some traditional challenges when it comes to safety strategies. Here are a few examples of how Arthur and his team at TotalView have been providing value to his clients today:

Incident recreation
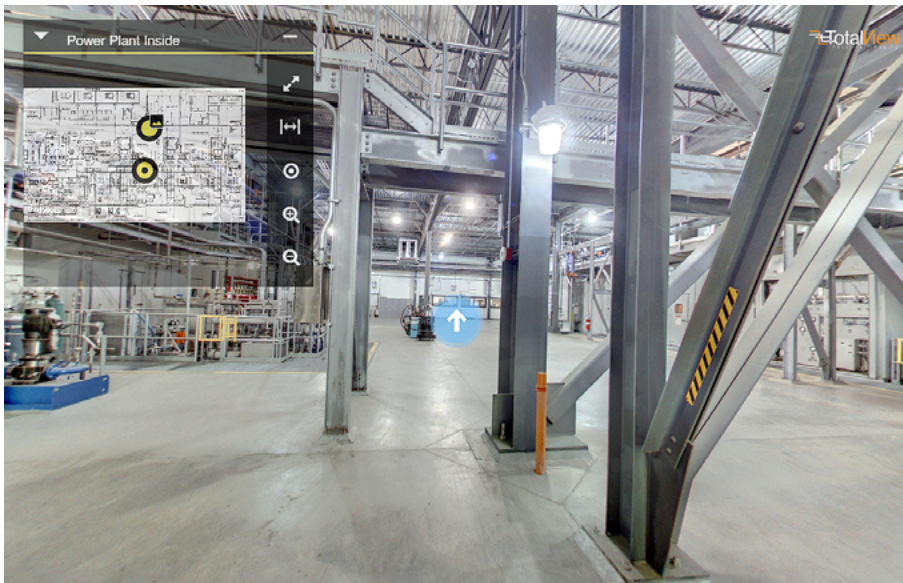
Virtual walkthrough of a facility

When incidents happen, it's important to understand why and what can be done to prevent it from happening again. To do that, information is vital and so is perspective. Traditionally, those that couldn't physically visit the scene would rely on written reports or 2D photos. TotalView captures the scene with 360° photos to provide a full walk around the area. They replace still, 2D photos with a real-world view and a better perspective on context. Sharing a link to the virtual walkthrough also creates opportunities to involve a broad range of expertise to evaluate a situation or incident. Expertise from across an organization can access the walkthrough and weigh in on recommendations.

"The second someone backs a piece of equipment into a facility or a process failure causes a workplace injury, everyone wants to see the photos from the incident," said Jensen. "When the photos are in 360° and can be marked up, everyone understands the context quicker and with less confusion."

Mapping the ice roads

TotalView helps clients pre-scope a site or facility as part of their planning process. They provide a virtual walkthrough of a location so their clients can identify and plan for any safety or training requirements. For example, clients preparing a brownfield site use TotalView virtual walkthroughs to understand and prepare employees and contractors for everything from tie-in locations to scaffolding requirements. Before they're on-site, the team involved understands what the location looks like, where the safety concerns are, and how to plan for logistics and safety. TotalView uses the HoloBuilder Enterprise Dashboard to give their client's employees and partners access to the data and walkthroughs they need.

> **"If you're driving on an ice road in the winter where the terrain is flat, the sky, ground, and road can all look exactly the same. If an employee hasn't been prepared for that, they could easily drive off the road and cause environmental damage."**
>
> *Arthur Jensen, CEO of TotalView*

TotalView has hundreds of shots which the HoloBuilder technology allows them to categorize within the virtual walkthroughs. End-users can filter the photos to focus on specific hazards or locations. For example, they can look at locations tagged as hazardous turns or intersections, see specific locations in the dark, or view blizzard conditions and slick roads. These filters let their clients get a perspective on the road they will be traveling based on the conditions they're experiencing that day.

Contractor safety reports

Contractor safety reports play an important role in preparing workers for the safety concerns and requirements they experience while on site. Long text and 2D-photo based documents are the standard but are not always effective. TotalView works with clients to replace pages and pages of text with more meaningful, immersive virtual walkthroughs.

"We can place contractors in a virtual environment of where they will be working, showing them exactly where the noise hazards or lead hazards are," says Jensen. "The 360° walkthrough conveys safety information far more clearly than a report."

Workers take a virtual walk through the spaces they will be entering and access icons and documentation to point out different features and concerns. It provides them with the information they need in context as well as giving them a perspective on the space from lighting to topography to size.

Web-based information sharing

Sharing information via web browser

Using HoloBuilder technology means that TotalView can deliver their virtual walkthroughs online simply by sharing a link. Those viewing it don't require any software downloads and simply need access to a browser. This is fundamental to TotalView's priority for information sharing. A virtual walkthrough can be shared broadly across an organization, with contractors, or with experts around the world to help facilitate improvements, training, and preparation. Their clients simply share a link to support their safety learning initiatives and take a proactive approach.

"During review meetings, for example, managers, executives, engineers from around the world can look at the 360° walkthrough and say 'we have that problem over here in Malaysia' or 'we had that problem in Norway and here's how we fixed it," says Jensen.

TotalView also works with clients to integrate links into SAP. For large capital projects or major overhauls, clients can access their virtual walkthroughs from within their existing SAP screens. Maintenance orders for equipment, for example, can include a virtual look around the equipment for a full perspective.

Results

TotalView is leveraging HoloBuilder technology to create safer work environments. Their partnership with HoloBuilder has been an important one for their business, including their ability to deliver valuable services to their clients.

Saved clients 120,000 hours per year in reduced errors and travel

TotalView estimates that on average, an employee loses 2 hours each week because of planning or communication errors, rework, and the required travel to a job site. By using their two technicians to travel to those sites instead and document the worksite, they estimate that they're saving an organization as much as 120,000 hours per year (based on an assumed employee workforce of 6 million hours per year). Their clients are seeing savings in different areas, but especially in the following:

- Employees reduce their number of site visits and rework with better planning and communications
- Plans and schedules are coordinated virtually with remote measuring and estimating as well as digital markups
- Toolbox and other team meetings are more effective and better prepare employees with virtual insight into safety hazards
- Better, more insightful safety plans and training with virtual locations and documentation
- Easier access to site condition information for near miss and incident reporting
- Faster deployment and preparedness for first responders who have access to virtual documentation

Reduced risks for remote locations

Many of the TotalView clients have facilities in the arctic. TotalView sends their team to the location to document the facility so their clients minimize the size of the team flying in from other locations, fewer vehicles traveling in unpredictable weather, and time spent on site. This not only saves on costs but also minimizes the risk of having large teams traveling to high-risk locations. The client receives permanent documentation of the facility they can access online. The information is easily available to everyone who needs it and is comprehensive so there is no concern about areas of the facility being missed.

Photo capture and upload 20 to 30 times faster

The JobWalk app from HoloBuilder lets the TotalView team capture, name, tag, and upload photos directly, eliminating the need to manually manage these tasks after the photoshoot. This means TotalView can turn things around quickly for their clients and the context of each photo is never lost.

Incident recreation accomplished within 1-2 days for client evaluation

Speed is especially important when recreating safety incidents scenarios. The ability to quickly capture and upload photos has made it possible for TotalView to provide their clients with a quick turnaround.
"We can build the scenario of an incident in a day or two and make it widely available to the people who need to use the information to prevent further incidents," says Jensen.