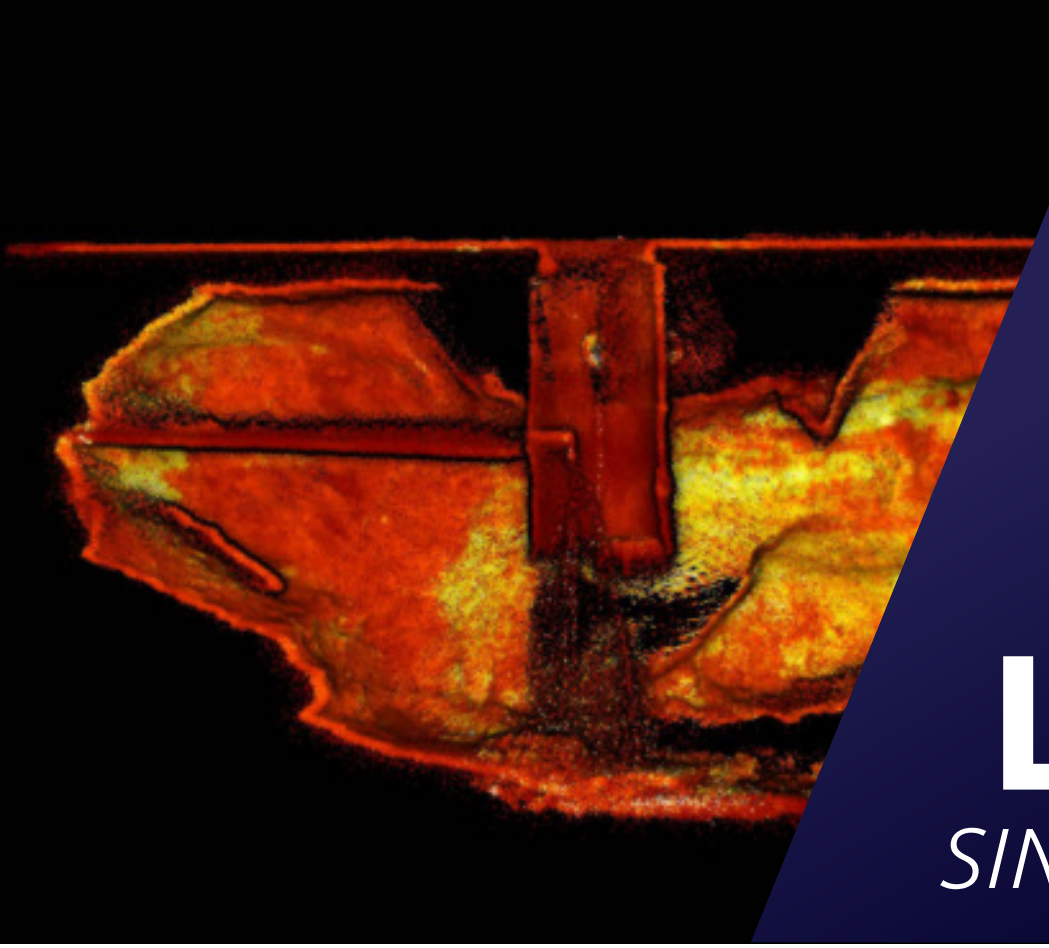


ZENITH

SUCCESS STORIES 07

LiDAR

SINKHOLE SCAN

SAVINGS

Zenith's attachment capabilities allowed for survey-grade LiDAR scans which will help save money.

DATA

The additional LiDAR payload provided the necessary dataset to assess the sinkhole.

SAFETY

Zenith allowed inspectors to stay out of confined space by preventing the need for human entry.

CUSTOMER NEEDS

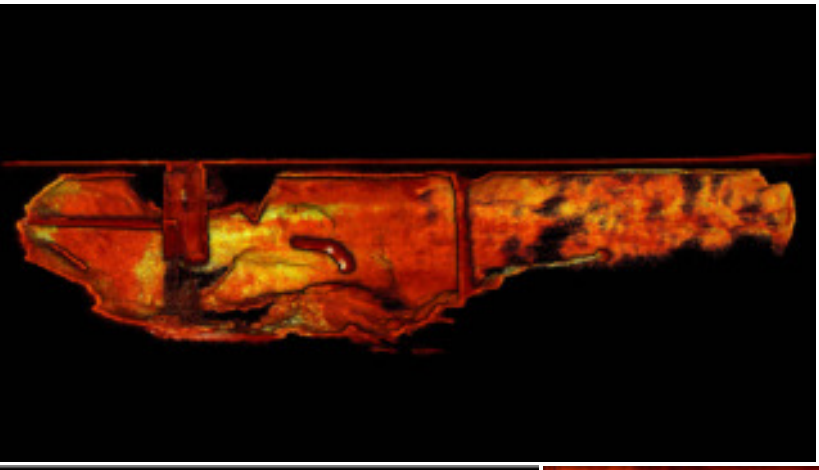
A production facility in North America suspected a sinkhole beneath one of their production lines and needed a way to assess the scale of the situation before hiring an engineering firm to structurally fix the problem. Sinkholes are cavities in the ground that form when water erodes an underlying rock layer. These can be man-made when city development compromises the structural integrity of underlying rock, or can naturally occur due to erosion processes.

The customer took interest in Zenith because of its ability to add additional payloads. A survey-grade LiDAR would allow them to see exactly how large the sinkhole was underneath the facility to give them and the engineers a place to start with reparations. Additionally, they wanted a solution that would ensure the safety of their employees and anyone or thing that could be affected by the sinkhole.

OUR SOLUTION

Interactive Aerial's inspection team completed the inspection with ease thanks to Zenith's ability to attach a variety of payloads. The Zenith unit is capable of accommodating additional payloads for inspections by utilizing the CoaxDrive system for stability as well as the cable and winch strength for carrying the extra load. The payloads are easily mounted to the underside of the Zenith unit using the pre-drilled mount pattern.

The LiDAR chosen to perform this inspection was the Emesent Hovermap. This captured high resolution point clouds which were used to create a digital replica of the cavity scanned. By using Zenith to attach and deploy the Hovermap, the IA team was able to provide two datasets at once. Not only was the Hovermap LiDAR scanning during its descent, but Zenith's camera was also capturing 18MP still photos and 4K video recording by utilizing a 30x optical zoom and a 10,000 lumen LED.



THE RESULTS

What was the state of the cavity and how far did it stretch underneath the facility? Could measurable and detailed scans be taken to ensure the civil engineers had what they needed to quote out repairs? Zenith, along with the Emesent Hovermap, were able to provide the results and more, establishing a safer and cost efficient method to carry out the inspection.

The sinkhole was documented by IA and their Inspection Service team within a day, eliminating the need for rope access or other manual entry. Zenith substantially improved the review process by providing clear visual data along with the HD LiDAR point clouds.

The customer determined that Zenith and inspection robotics are viable alternatives to traditional confined space entry inspections and other dataset capturing methods. Tools like Zenith and Hovermap are helping save them time, money, and ultimately increasing the safety of their employees.