

AeroVoxel

AN AUTOMATED SOLUTION FOR
INFRASTRUCTURE INSPECTIONS



AeroVoxel combines survey-grade 3D mapping with artificial intelligence to detect and locate damage and defects in your infrastructure.

It offers a flexible solution to create data-enhanced digital twins and inspect for defects accurately and safely.

Automated Infrastructure Inspections

- ✓ SAFE
- ✓ ACCURATE
- ✓ RELIABLE
- ✓ PRODUCTIVE

3D Laser Mapping with AI



Laser Mapping

AeroVoxel spatial mapping creates a digital twin of your asset in real time by using a 3D laser scanner that collects 300,000 measurements per second.



Artificial Intelligence

A trained AI algorithm is applied to the spatial map to identify specific objects of interest. These are then mapped in place and time and can be saved for future reference.



Camera System

4k cameras come standard on AeroVoxel to create photo-realistic models, and detect even the smallest cracks or damage in your concrete asset or ground conditions in your underground mine.



Automated Obstacle Avoidance

The system uses advance robotics systems to automatically detect obstacles, and steer a drone away from them.



Lightweight

Its light weight allows drones to fly for up to 45 minutes, meaning you can collect more data per flight and reduce your time in the field.



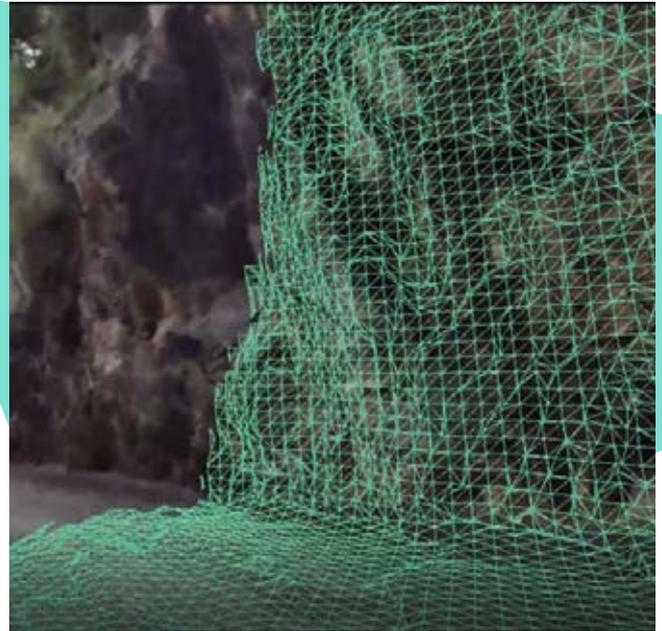
Powerful Processing

AeroVoxel contains a super-computer on a chip, capable of processing up to 21 trillion operations per second.

Analysis Software for Civil & Geotechnical Engineers

Aerovoxel's intuitive software makes report writing and analysis simple.

- You can view any 3D scan
- View every AI detection and inspect the corresponding photograph
- Measure the size of cracks and defects and see how they interact with the structure in 3D
- View multiple 3D models of the same asset from different inspections to see the changes in photos and 3D shape



The high-resolution camera creates high-resolution images that are mapped to the scan instantly.

This automatically produces detailed 3D model of the infrastructure that maps the defects to their location. The faults can then be measured and assessed.

SOLVING MISSION-CRITICAL PROBLEMS

AeroVoxel was devised to meet the need for mining companies to inspect underground mines for cracking and damage.

During the product's innovation, other industries noted the use of AeroVoxel's core technology to inspect concrete bridges, buildings, dams and other civil assets.

Testing of AeroVoxel has been conducted in temperatures from -10°C to 35°C, ensuring it is tough enough to withstand your working conditions.

How AeroVoxel works?

3D SLAM mapping

Laser scanner produces 300,000 measurements per second.

Measure the size of cracks and defects and see how they interact with the structure in 3D

View multiple 3D models of the same asset from different inspections to see the changes in photos and 3D shape

Cutting-Edge Data Analysis

AeroVoxel software is tailored to meet your industry or specific need. Algorithms are trained on thousands of images for precision identification.

Data can be uploaded to a protected and secure cloud, and viewed on any PC, phone or tablet with a login and password. Alternatively, the data and scans can be downloaded and viewed in Virtual Reality using an Oculus Go or another VR headset, or manually exported and viewed in CAD or BIM software. The 3D maps can be stored as records for ongoing asset management.

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