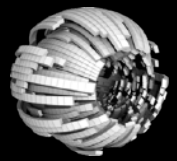
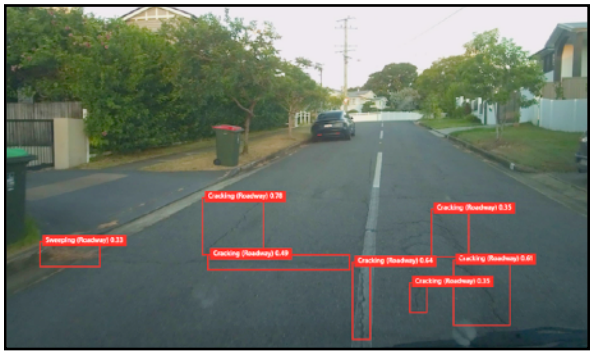


RETINA VISIONS

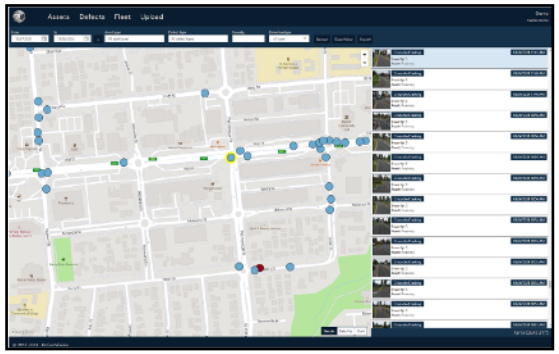
Solution Overview

Retina Visions combines stereo vision cameras with computer vision technology to automatically identify objects on the road and footpath networks. This data is streamed to councils and road operators to automate the inspection process across their assets.

Road asset data is collected by dash-mounted cameras on any council or contractor vehicle (waste collection, street sweepers, utility etc)



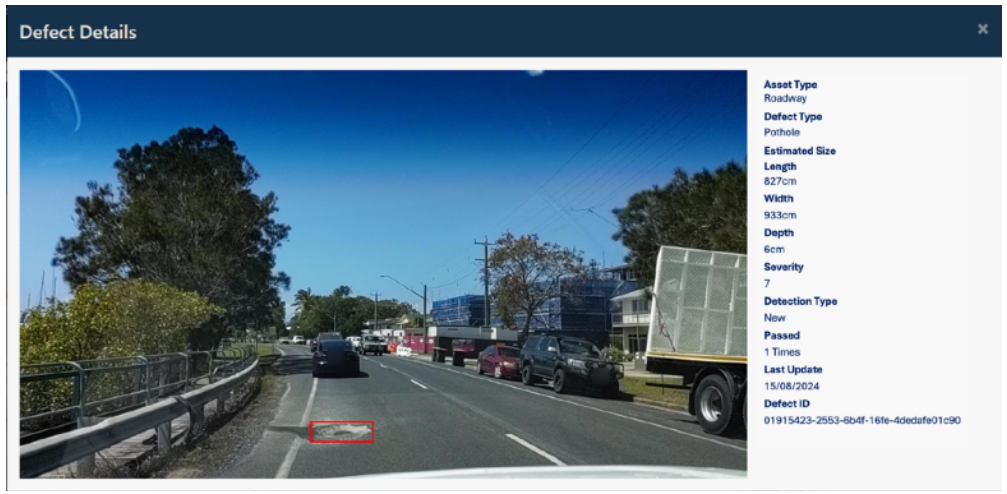
AI technology automatically identifies and classifies road asset defects (e.g. potholes, cracks, faded line marking, damaged signs and guideposts etc.)



Defects integrated into Council's Asset Management System and GIS system to group, plan, and action rectification work

Automatic Measurements

Stereo vision technology utilises two cameras to capture images from slightly different angles, providing depth perception and accurate 3D measurements of road defects. This automated system quickly identifies and quantifies defect dimensions, ensuring precise and efficient road network inspections.



Solution Benefits

Introducing a breakthrough in visual inspection technology. The only AI Visual Detection System engineered to precisely identify defect locations while delivering accurate, real-world measurements. This state-of-the-art solution leverages advanced machine learning algorithms and computer vision techniques to not only detect surface flaws but also quantify them with unprecedented precision.

Accurate Defect Localisation:
Utilising deep learning models trained on diverse defect data, our system pinpoints the exact location of defects across your road and footpath assets.

Real Defect Measurements:
The technology doesn't stop at detection. It provides real, quantifiable measurements of defects, which means you can assess the severity and impact of each flaw with confidence, enabling faster, more informed decision-making.

Seamless Integration:
Designed for versatility, this AI-driven solution integrates effortlessly into Asset Management and GIS systems, reducing manual tasks and boosting operational efficiency.

Enhanced Quality Assurance:
By delivering precise, actionable data, the solution enables authorities to uphold strict quality standards, reduce maintenance inefficiencies, and streamline repair processes. This results in better road and footpath integrity, ensuring safer and more reliable infrastructure for public use.

Self-Updating Intelligence:
The solution automatically retrains itself using new input data, continually refining its algorithms to better detect and measure defects ensuring that it remains at the cutting edge of defect detection.

Natural Disaster Claim Evidence:
Our system automatically collects pre-event, defect, and post-event evidence to create a comprehensive timeline for natural disaster claims. This robust, data-driven documentation streamlines claim support and accelerates compensation.

Detection Types

Retina Visions started developing this technology in 2018, with the identification of a pothole. Since then, we have built a catalogue of almost 30 defect types across the road and pathway assets and are continuing to add to this list.

Road Surface

Potholes
Cracking
Crocodile Cracking
Shoving
Rutting
Raveling
Flushing
Edge Damage
Faded Linemarking

Road Corridor

Kerb and Channel
Barriers and Guardrails
Litter and Debris
Vegetation
Overhanging Branches
Ponding Water
Sweeping
Roadkill
Graffiti

Signage

Deformed Signage
Faded Signage
Deformed Guideposts

Footpath

Cracking
Crocodile Cracking
Damaged Tactiles
Displacement
Edge Damage
Edge Drop
Faded Linemarking
Litter and Debris
Overhanging Branches
Ponding Water
Pothole
Sweeping
Temporary Repair
Vegetation

Vehicle Setup

Retina Visions started developing this technology in 2018, with the identification of a pothole. Since then, we have built a catalogue of almost 30 defect types across the road and pathway assets and are continuing to add to this list.

Road Vision Pro

- HD Stereo Vision Camera
- GPS Antenna
- LTE Antenna
- Graphical Processing Unit

Install into any vehicle
Simply plug into 12/24V outlet
No calibration required
Move between vehicles
Auto start on vehicle ignition
Auto stop when vehicle turned off
No driver interaction required

Defect Examples

Sweeping

Faded Linemarking

Broken Kerb

Graffiti

Flushing

Roadkill

Deformed Guidepost

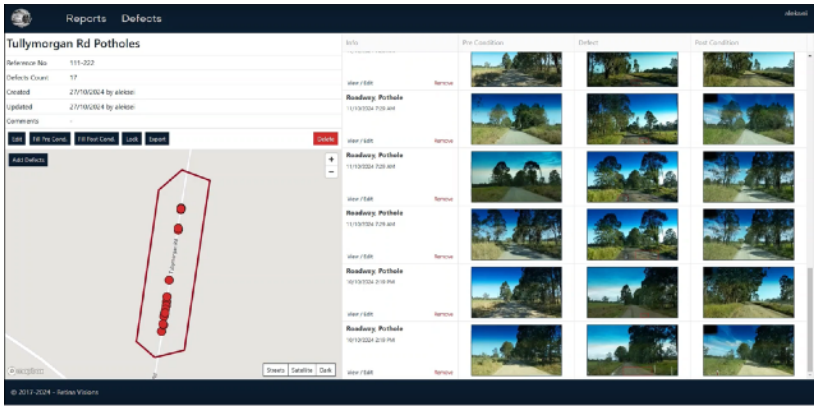
Deformed Signage

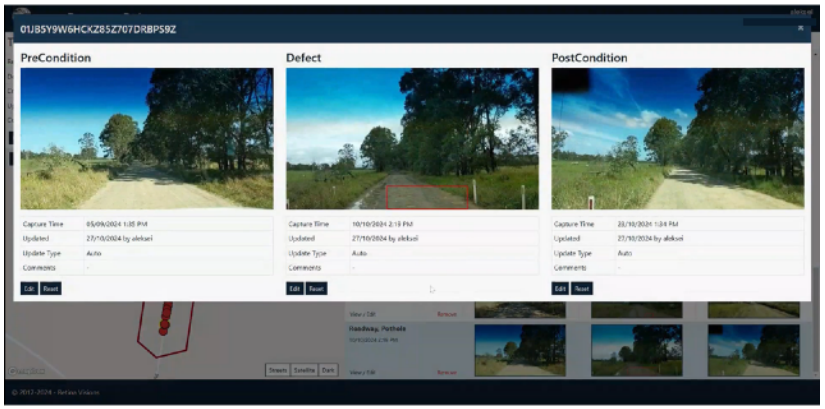
Overhanging Branch

Edge Damage

Natural Disaster

Our advanced system automatically captures and compiles pre-event conditions, defect evidence during the event, and post-event data, ensuring a comprehensive, chronological record for natural disaster claims. Combined with our natural disaster funding application, this robust, data-driven solution streamlines the claims process by providing clear, verifiable evidence to support timely and accurate compensation.





“Clarence Valley Council has managed to complete the claims process for Cyclone Alfred in less than 3 weeks. Prior methods would have taken 3-4 month to accomplish this task.”

Devin Simpson - Manager Civil Services, Clarence Valley Council

Our Customers

Fulton Hogan

ventia

立塘集团 LEY CHOON GROUP

Shoalhaven City Council

wollongong city of innovation

Transurban

Liverpool Plains Shire Council

Shellharbour CITY COUNCIL

Queensland Government Department of Transport and Main Roads

CITY OF MORETON BAY

clarence VALLEY COUNCIL

GLEN INNES SEVERN COUNCIL

WARREN shire council

NSW GOVERNMENT Transport for NSW

NOOSA Council

Griffith city council ...love the lifestyle...

MIDCOAST council

PORT STEPHENS COUNCIL

Downer

City of Ipswich

CUMBERLAND CITY COUNCIL

City of Kalgoorlie Boulder

METRO ASPHALT

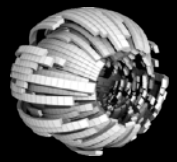
CANTERBURY BANKSTOWN

blue mountains City Council

QPRC

BRISBANE AIRPORT AUSTRALIA BNE

Moorabool Shire Council



RETINA VISIONS

info@retinavisions.com

www.retinavisions.com

+61422549310