Integration of AI Technology in Airfield Pavement Management

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Part I – Case Study at the Calgary International Airport

YYC CALGARY INTERNATIONAL AIRPORT

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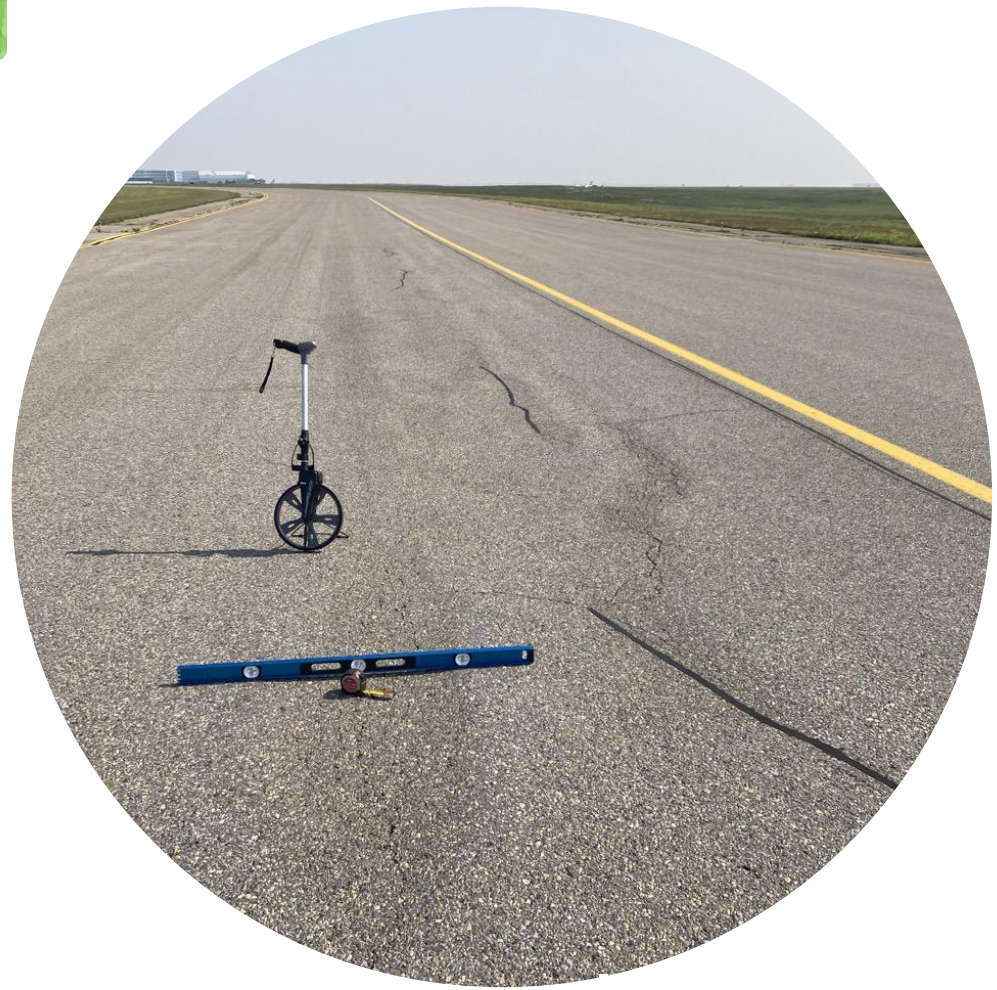
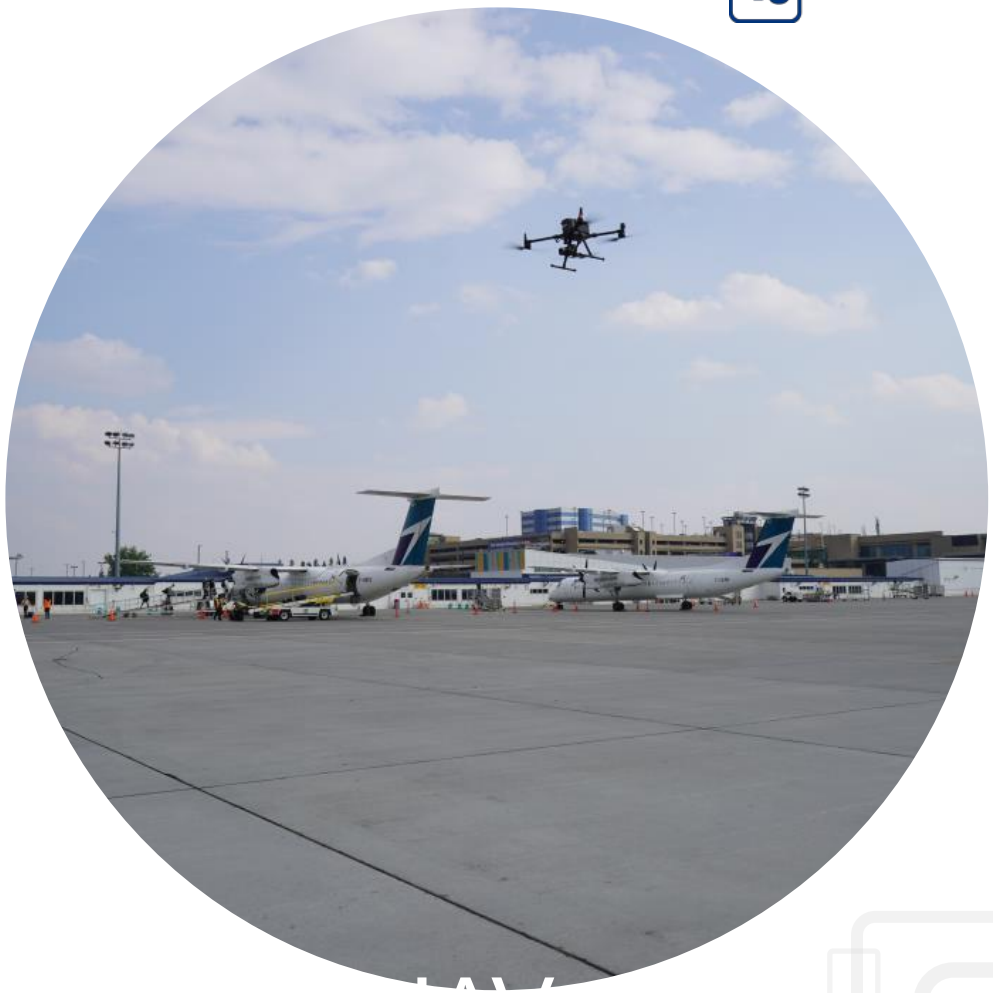
Approx.
3 million m^2
of Airfield
Pavement

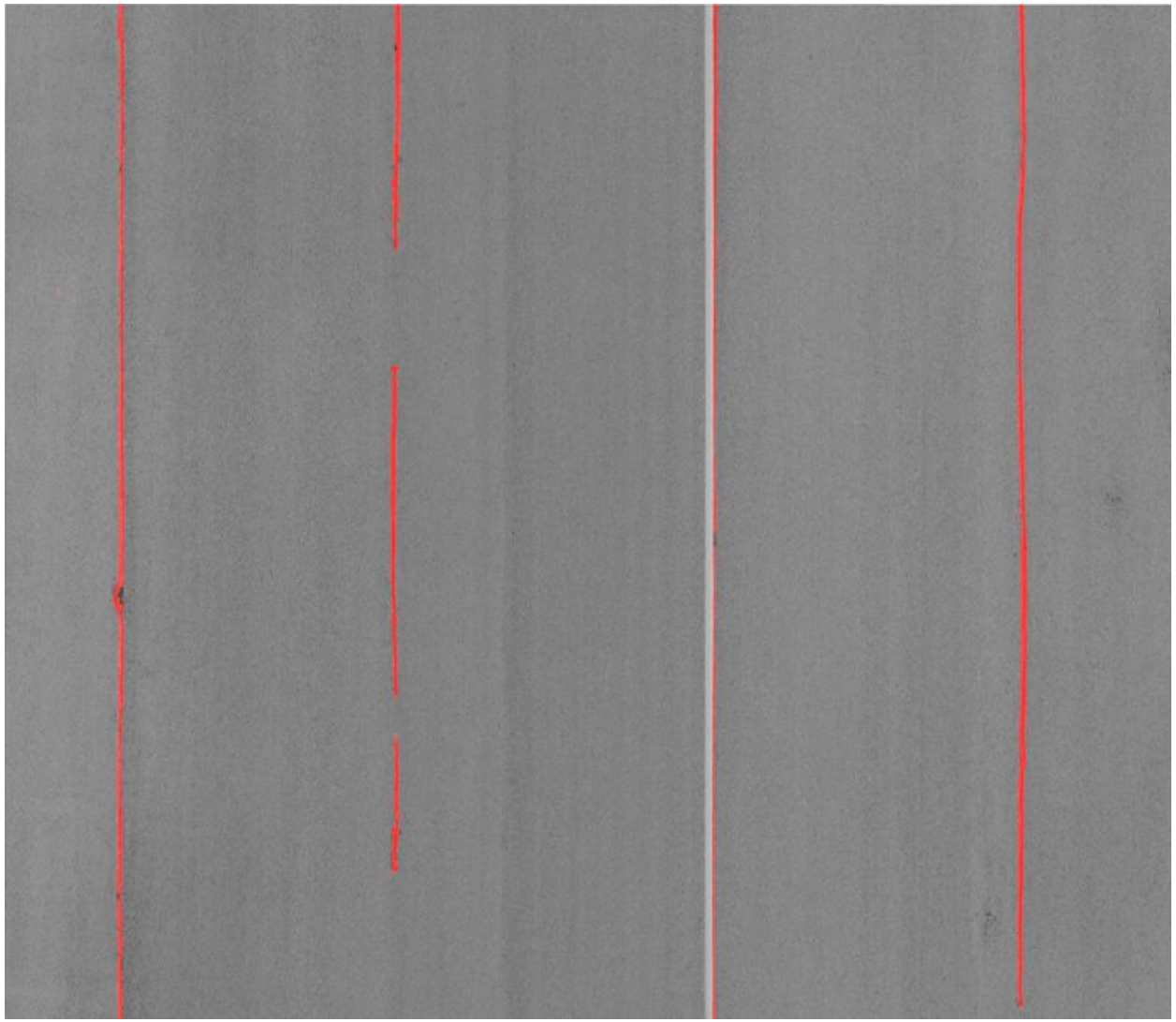




Manual - 20 days

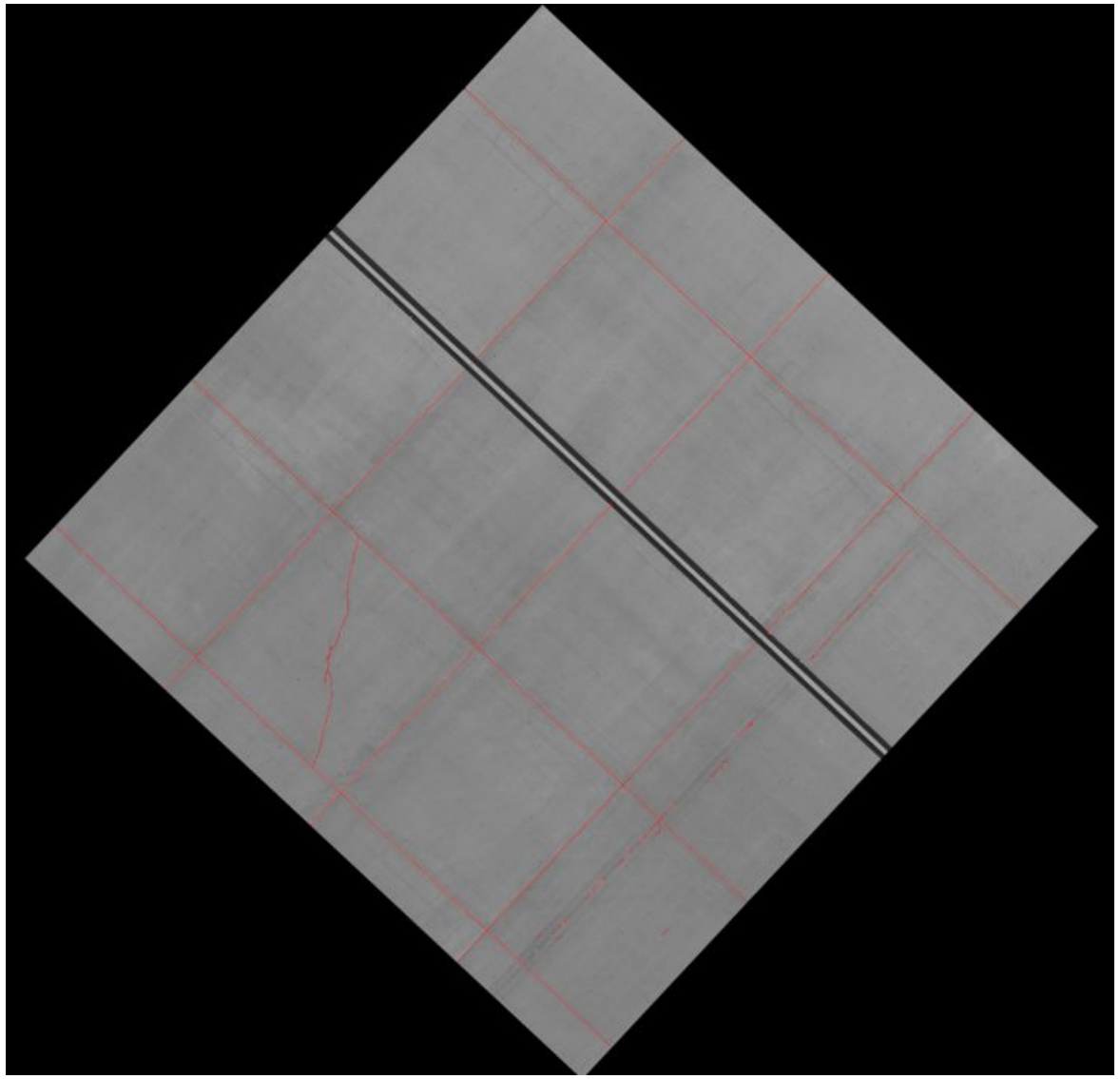
UAV - 8 days

AI Crack Detections

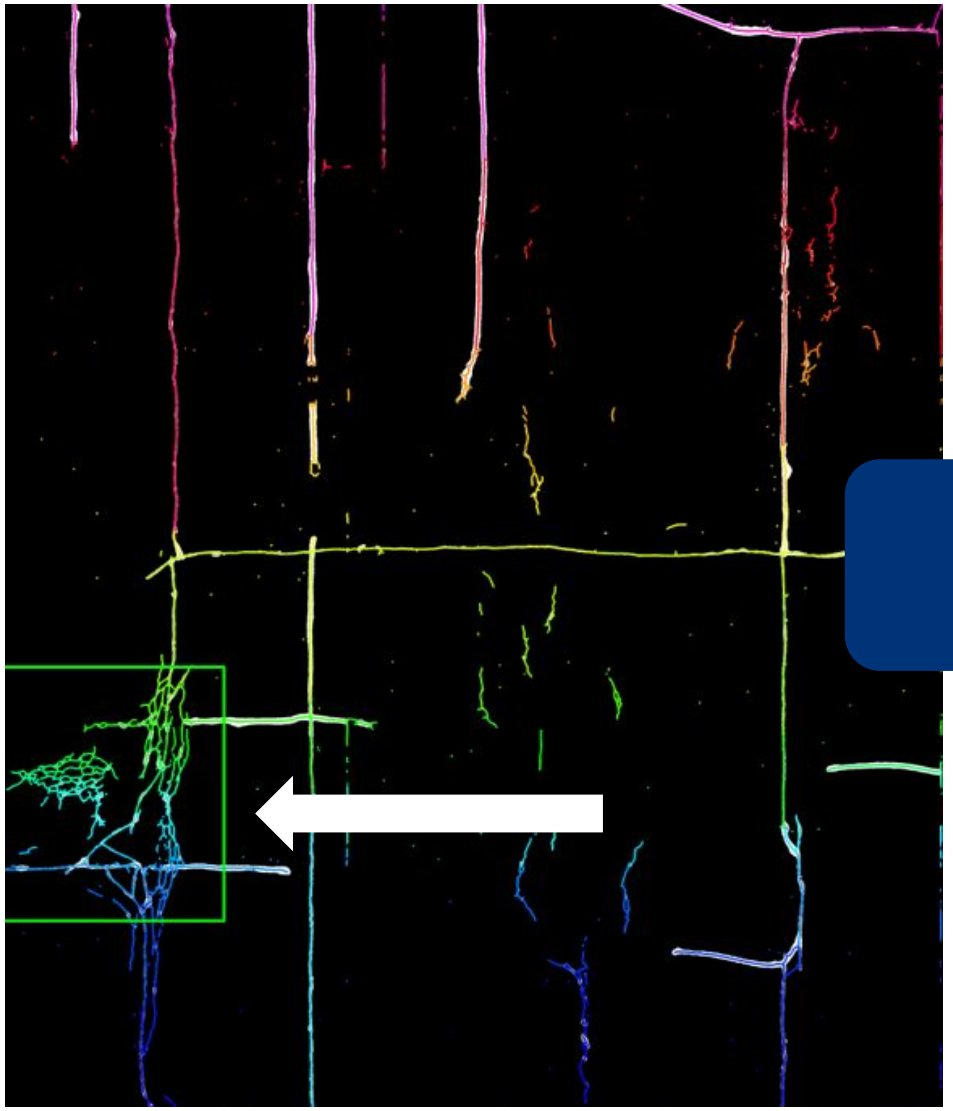


Manually measured:
117m
AI Detection: 104m

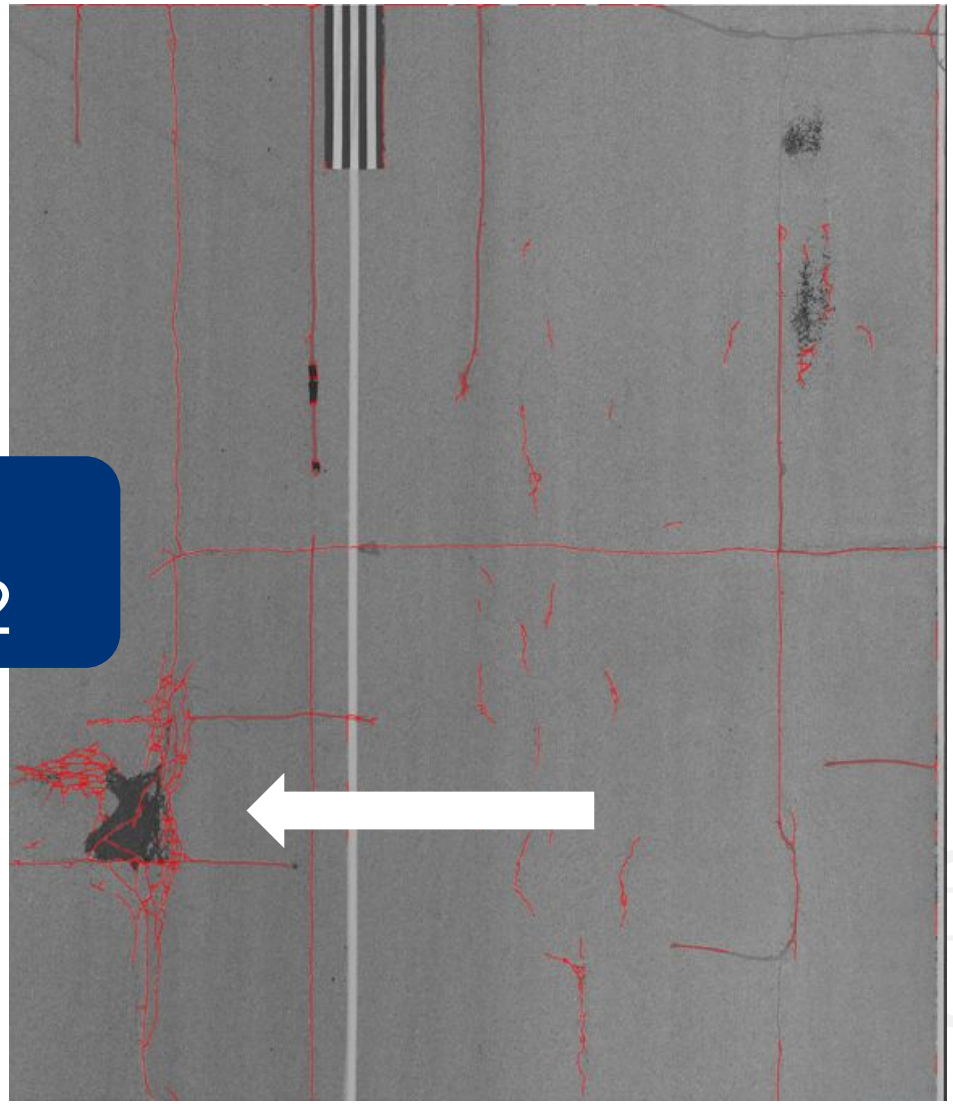
AI Crack Detections

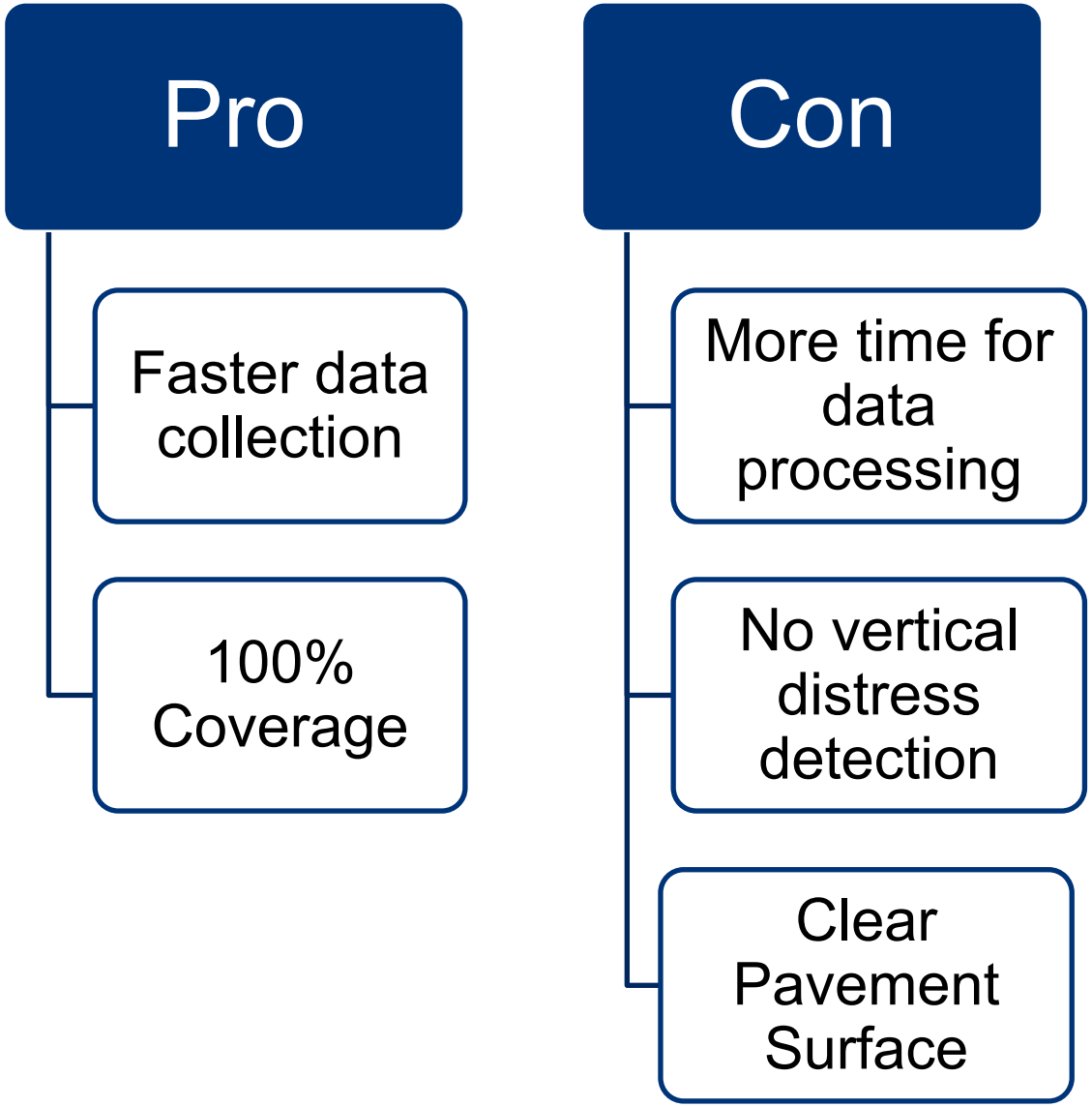


AI Crack Detections



Area:
19.4m2





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Pro

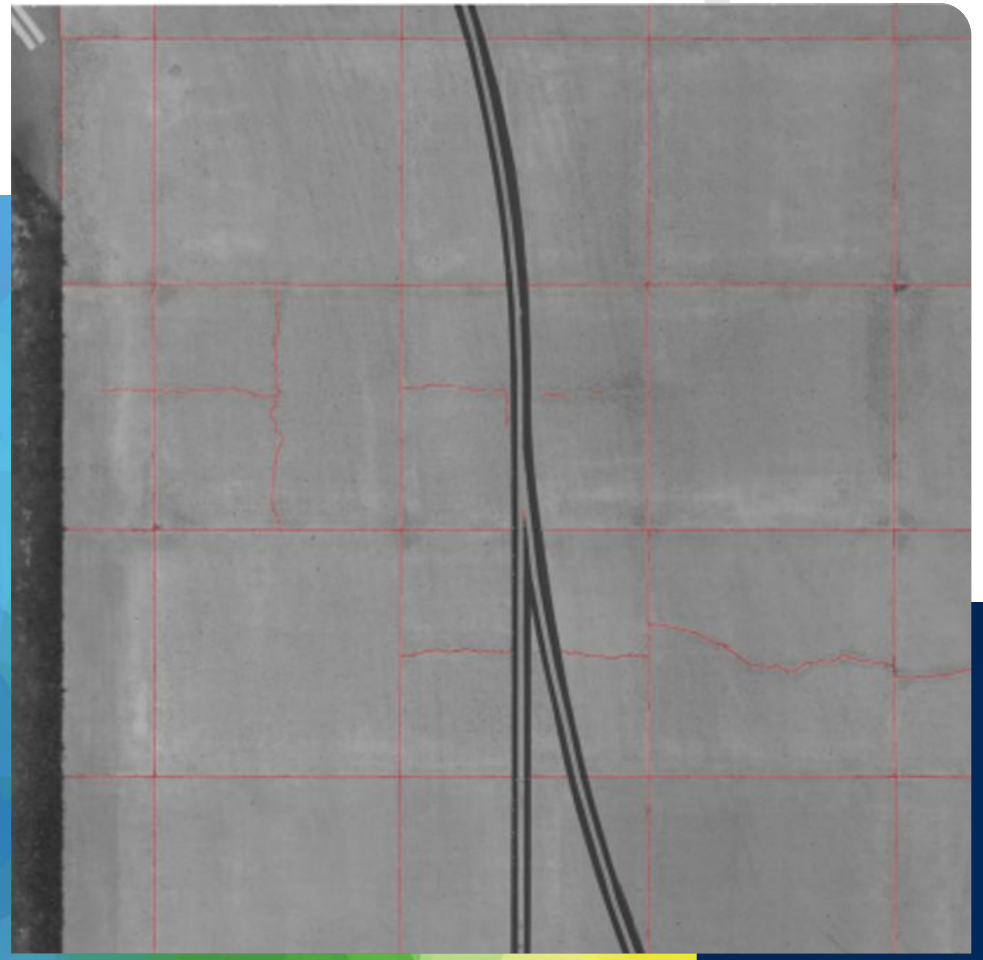
- Faster data collection
- 100% Coverage

Con

- More time for data processing
- No vertical distress detection
- Clear Pavement Surface

Challenge

Part II – Additional Applications



“Monitor for changes”

Comparative Analysis

“Cracks should be sealed to prevent future deterioration”

Quantify Lengths

“Ongoing Regular Maintenance”

Centralized Data with a Collaborative Platform

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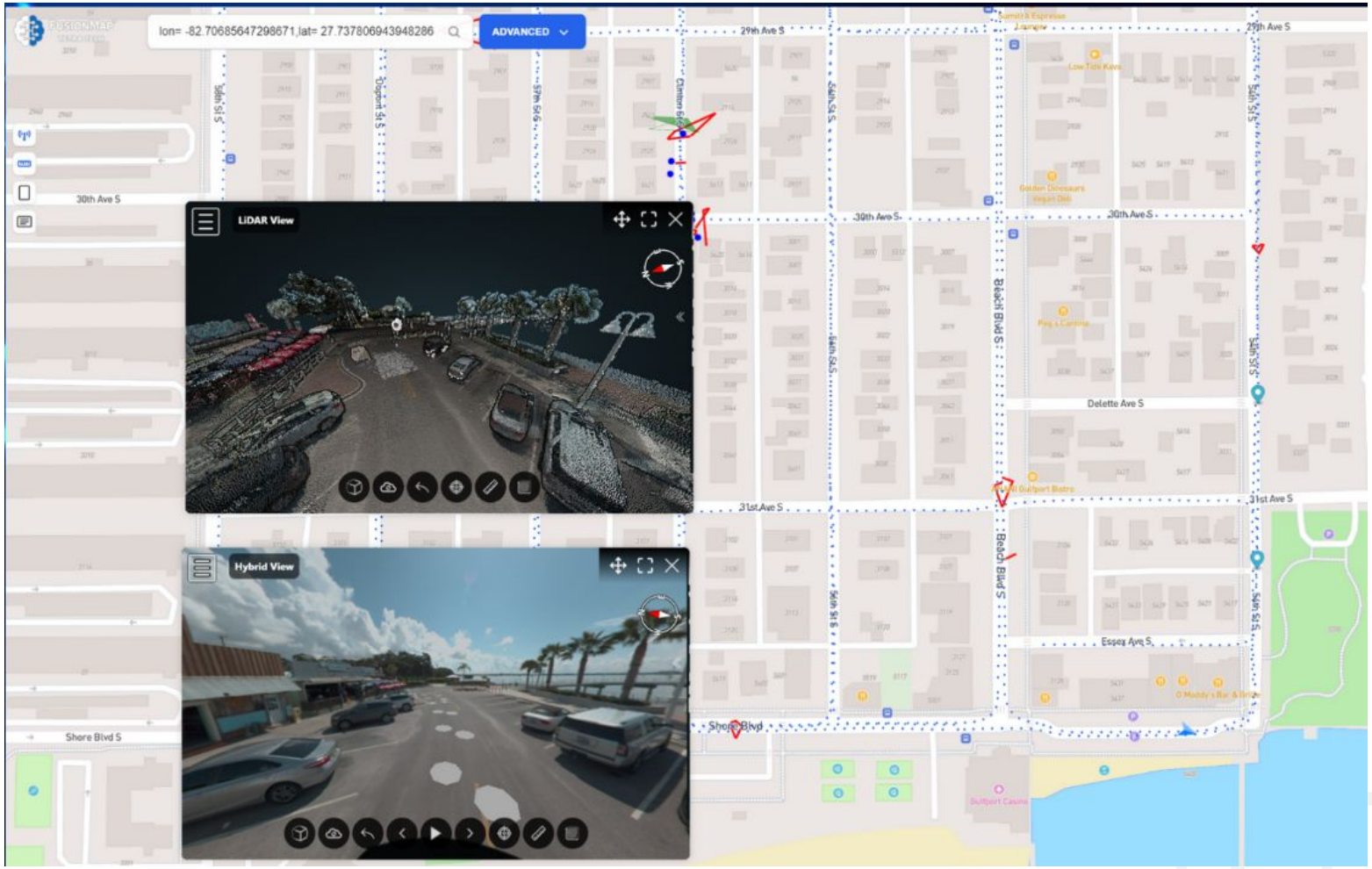
FusionMap®

AI-powered geospatial data visualization, asset extraction, and management with seamless GIS integration

Video to 3D Model



Map Interface

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Capital Improvement Plan

Aircraft Movement

FusionMap®

Maintenance Activities

Pavement Structures