

CASE STUDY

Automating Highway Maintenance with AI

Alberta Province, Canada



Customer Situation

Emcon Services Inc. has been providing highway maintenance services across the Canadian provinces of British Columbia, Alberta, and Ontario since 1988. As a highway maintenance contractor, the company continuously monitors road conditions 24/7, including potholes, cracks, debris and other roadway defects.

In regions with strong freeze-thaw cycles like Alberta, where Emcon manages multiple Contract Maintenance Areas (CMAs), pavement deterioration can accelerate quickly. This increases the need for timely and accurate documentation to mitigate safety risks and manage liability.



Challenges

Emcon had initially relied on manual road inspections. But this presented several challenges:

- **Safety risks**

Stopping at each incident location to capture details posed safety risks for patrol drivers, especially on highways.

- **Government reporting**

Aggregating manual records into weekly reports for the provincial government was time-consuming.

- **Response time**

Defects on high-speed highways must be detected immediately and accurately, which can be challenging when monitoring is performed manually.



EMCON has observed noticeable improvements in patrol and inspection efficiency.. Time required to cover 250-300 kilometers of road check was around 6-8 hours with manual inspection, but now reduced by 2-3 hours"

Vignesh Babu

(QA/QC Manager,
Emcon Services INC.)



Client

Emcon Services Inc.



Project Duration

Apr 2025-Mar 2034 (10 Years)



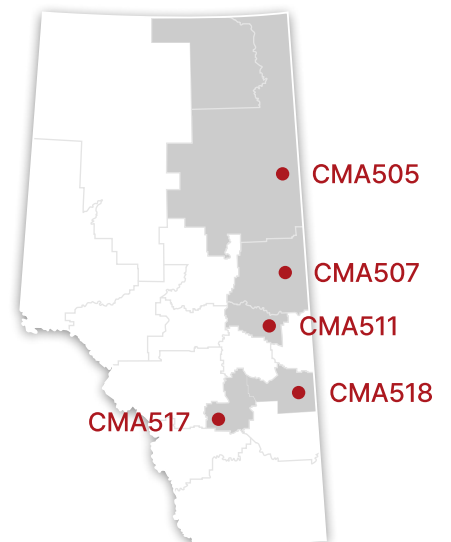
Service Type

RiaaS RoadKeeper



Project Location

Alberta Province



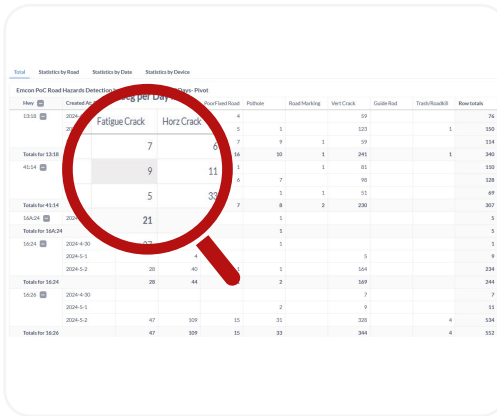
*CMAs with RiaaS deployment

Solution

To automate the inspection and reporting process while enhancing the safety of its field personnel, Emcon began deploying RiaaS (Road-information-as-a-Service) RoadKeeper in 2025, starting with two Contract Maintenance Areas (CMAs) under its management. Patrol vehicles in CMA 517 and CMA 518 were equipped with AI Road Analyzers (ARA-20SE), enabling road defects to be detected and transmitted to a customized dashboard in real time.



ARA-20SE installed on fleet



Statistics for reporting purposes

Results

The deployment of RiaaS RoadKeeper enabled Emcon's patrol drivers to continue their routes without needing to stop and manually log incidents.

The solution also streamlined weekly reporting by automatically generating data in a format ready for submission to local authorities.

In August 2026, an additional twenty devices will be deployed across CMAs 505, 507, 511, 517, and 518, expanding coverage to nearly one-quarter of the provincial road network.

Schedule a demo to see how DareeSoft can help you:

- ✓ Identify roadway defects
- ✓ Assess pavement conditions
- ✓ Monitor roadway assets
- ✓ Improve maintenance decisions

Detections

- ✓ Potholes
- ✓ Cracks
- ✓ Debris
- ✓ Asphalt Patches
- ✓ Broken Delineators
- ✓ Roadkill
- ✓ Erased Road Markings

Impact

- ✓ **93%** detection accuracy
- ✓ **30%** reduction in inspection time
- ✓ Enhanced **safety** for field crews
- ✓ Report-ready statistics

Contact



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