



DRIMS®

The ultimate smartphone-based road monitoring system for effective condition evaluation.

Transforming road condition evaluation

Our value-focused system harnesses IRI and AI to identify the location, grading and mapping of road conditions and defects.

The core technology was developed by the University of Tokyo, with further development carried out by JIP Techno Science Corporation and Waterman's parent company, CTI Engineering. The system is widely used for road maintenance in Japan, and CTI Engineering has been leading the introduction to projects overseas, before bringing DRIMS to the UK for development in 2020.

Want to find out more?

To learn more about applying DRIMS to your road maintenance operations, contact:

John Swift
Associate Director – DRIMS
john.swift@watermangroup.com
t: + 44 (0)7909 977 205



watermangroup.com



What is DRIMS?

DRIMS generates detailed data and reports which are then used to establish the type and location of repairs required, whilst also assessing the road's overall surface quality. This provides a perfect data set from which to plan detailed inspections, localised remedial or preventative maintenance work and to support larger asset management applications.

How does it work?

Our compact hybrid system can be used in any vehicle by simply adding two smartphones to the dashboard - one to display quantitative IRI data, and the other for intuitive image AI.

IRI Analysis

DRIMS uses Floating Car Data to give an International Roughness Index score for any given stretch of road. Our IRI accuracy has been proven in several tests, including a comparative test with special inspection vehicles which was conducted by Japan's Ministry of Land, Infrastructure, Transport and Tourism.

The sensors from the smartphone will evaluate the road roughness. Half-car models are used which, depending on the installation location, have less variation in accuracy compared to conventional quarter-car models.

AI Analysis

Using actual road defect images as a teaching picture, our AI system is optimised by deep learning capabilities. This means that the library grows with every survey, increasing accuracy and reducing errors that occur with a standard machine learning camera-based solution.

WHY CHOOSE DRIMS?



Optimum data accuracy

DRIMS offers data compatibility with Asset / Pavement Management Systems and is also suitable for periodic Asset Safety Awareness (ASA), turning raw data into actionable insights.



Value focused

This cost-effective solution requires minimum resources, allowing wide-ranging, flexible condition monitoring from your existing fleet with a simple-to-operate smartphone application.



Accessible

DRIMS delivers flexible road condition monitoring together with easily accessible, on-demand data, supporting risk-based approaches to targeted maintenance.



Smartphone compatible

All that is required is two smartphones - DRIMS performs profile estimation that is consistent with profiler vehicles across a wide range of vehicle types, from compact cars to SUVs.



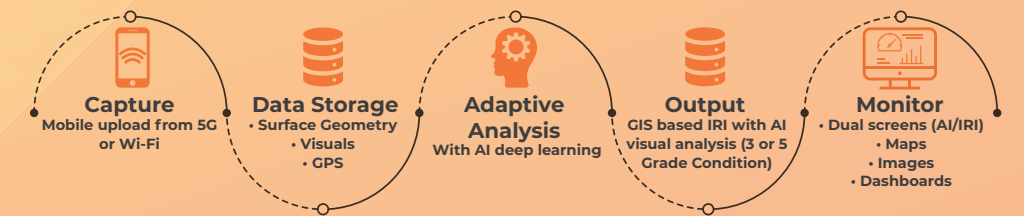
Reduced environmental impact

Automatic deterioration measurements over time provide materials analysis leading to better solutions or substantiating existing operations. The data helps to reduce maintenance and identifies poorly performing asphalt, concrete or surface dressed installations.



Visit our website to find out more.

OPERATING PROCESS



OUTPUT



Map viewer

The system consists of two screens: a map screen and a dashboard screen. By linking these, a specific route section selected on the dashboard screen can be enlarged, and the location of deformation detected by AI can be displayed either on a map or as a still image.



Dashboard

The dashboard shows the percentage of IRI and the quantity of deformities detected by AI detection for each route.



AI result

Switchable between original images and AI analytical results. Filtering by damage type is available. CSV/Excel output for each selected route.



Professional services

We can assist by providing various consultancy services including schemes and life cycle management based on the information generated by DRIMS.