

Laser Crack Measurement System

The laser crack measurement system (LCMS)

uses laser line projectors, high speed cameras and advanced optics to acquire high resolution 3D profiles of the road. This unique 3D vision technology allows for automatic pavement condition assessment of asphalt, porous asphalt, chipseal and concrete surfaces. The LCMS acquires both 3D and 2D image data of the road surface with 1 mm resolution over a 4 m lane width at survey speeds up to 100 km/h.

LCMS data is acquired and compressed in real time in the survey vehicle so as to minimize storage needs (<1Gb per km). The collected data can then be analyzed using Pavemetric's data processing toolbox (DLL library of C/C++ functions). This library has functions to detect and analyze cracks, lane markings, potholes, ravelling, and macro-texture. Rutting is also measured and characterized using more than 4000 points and rut depth and type (short, multiple, long radius) is evaluated. Concrete road surfaces can be scanned to evaluate joints, tinning and faulting between the concrete slabs. IMUs can be added to the sensors in order to measure longitudinal profiles, IRI, slope and crossfall.



KEY FEATURES

- Automatic crack detection and severity
- 4 160 point rutting (rut depth, rut type)
- Macro-texture measurements over 100 % of the lane width.
- 3D and 2D data to characterise: cracks, pot holes, ravelling, sealed cracks, joints in concrete, tinning, etc.
- Day and night operation
- Low power consumption
- High resolution (1mm) downward images
- IRI and longitudinal profile
- Slope and crossfall

