Pavemetrics
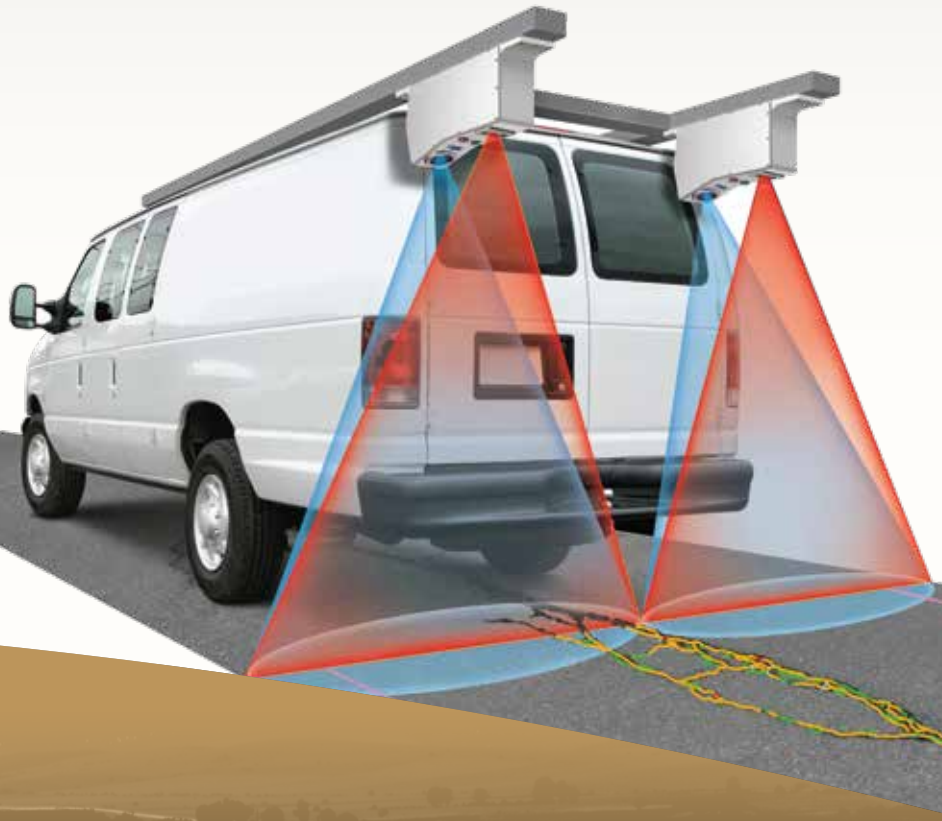
Laser Crack Measurement System (LCMS-2)

KEY FEATURES

- Automatic detection and measurement of cracking (both sealed and unsealed)
- Measurement of longitudinal profile and calculation of roughness (optional)
- Rutting measurement
- Water-entrapment calculation (optional)
- Edge drop off and curb detection and measurement
- Pothole detection and measurement
- Detection and measurement of raveling
- Measurement of macro-texture (MPD, MTD) in all 5 AASHTO bands
- Pick-out detection

- Bleeding detection and measurement
- Delamination detection and measurement
- Shoving detection and measurement
- Sewer and storm-drain detection and inventory
- Rumble strip detection and inventory
- Joint detection, spalling and faulting measurement
- Pavement type detection (asphalt, chipseal, porous, concrete)
- Pavement marking detection and dimension measurement
- GPS tagging of measurements and images (using Customer-supplied GPS)
- Slope, Cross Fall and Super Elevation (optional)

Vision Systems for the Automated Inspection of Transportation Infrastructure

Pavemetrics

Laser Crack Measurement System (LCMS-2)

SYSTEM SPECIFICATIONS

- Number of laser profilers: 2
- Motion compensation: built-in IMUs combined with a proprietary algorithm
- Sampling rate: 28,000 profiles/s
- Vehicle speed: 0 to 100 km/h
- Profile spacing: 1 mm to 5mm
- Transversal field of view: 4 m
- Transversal resolution: 1 mm (4,096 points/profile)
- Vertical accuracy: 0.25 mm
- Vertical resolution: 0.05 mm*
- Laser profiler dimensions: 428 mm (h) x 265 mm (l) x 139 mm (w)
- Weight: 13 kg per sensor head
- Power consumption (max): 150 W at 120/240 VAC
- IP 65 Rated

* vertical resolution for IRI measurements at 25 mm (1 inch) intervals (confidence level of 95%)

The **Laser Crack Measurement System (LCMS-2)** 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-2 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-2 data is acquired and compressed in real time in the survey vehicle so as to minimize storage needs. The collected data can then be analyzed using Pavemetrics' data processing SDK (DLL library of C/C++ functions). The SDK includes functions to detect and analyze cracks, lane markings, potholes, ravelling and more. Rutting is also measured and characterized using more than 4,000 points. Concrete road surfaces can be scanned to evaluate joints, spalling and faulting between the concrete slabs. Options to measure longitudinal profiles, IRI and slope and crossfall are available with the built-in IMUs.

Man Made Object
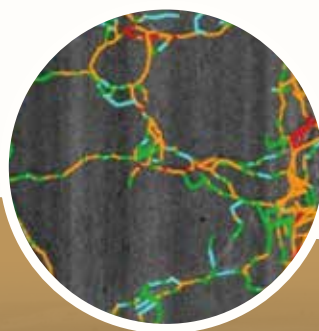
Unsealed Cracking

Sealed Cracking

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