

## Route-Based Measurement – Sensors Going Mobile



*Keeping roads open and safe in adverse weather has for many years challenged road operators. To assist in decision-making real-time surface information is vital. Now, for the first time ever, you can have complete control where you take accurate readings of road surface conditions, making sure you get vital data from where you need it most.*

### Vehicle mounted instruments deliver measurement of slipperiness

Vaisala has developed the vehicle-mounted mobile DSC111 and DST111 surface state and temperature sensors to enable measurements to be taken anywhere across your network. This latest addition to the highway engineer's winter tool kit measures elements vital to road safety such as water accumulation (depth), ice, black ice and snow– and uniquely the grip value which is a measure of surface slipperiness.

### Straight forward data display

Information is graphically displayed to the driver in real-time and archived for future reference. Coupled with GPS technology, the roof-mounted mobile sensor takes eye safe laser readings of the road surface. Measurements are very accurate, even with intense traffic. This means fact based decisions can be made quickly and efficiently.

### Summary

- Vehicle-mounted real-time surface measurement delivers objective information to assist in treatment decision-making, exactly where its needed.
- Unique grip value identifies the reduction in coefficient of friction caused by adverse surface conditions.
- Understanding the level of slipperiness on a road ensures decision-making with confidence.
- Elimination of subjectivity and human error will improve network safety.
- Pinpoint measurement assists in reduction of chemical use, while optimizing application time.
- Mobile measurements will be instrumental in post-accident analysis.

## Road readings you can trust

By eliminating subjectivity and human error, you will improve the safety of your network. Patrol drivers' judgment may be good, but calibrated instrumentation delivers objective, accurate measurements every time. Particularly on marginal nights the equipment will build confidence and enable better decision-making. Critical reductions in friction due to adverse weather raise the alarm, letting you take swift, appropriate action.

## Grip values eliminate guesswork

Whether its snow, ice, frost or even the threat of aquaplaning, it's important to know how slippery the road can be. Vaisala Mobile DSC111 accurately calculates road surface grip, giving you the information you need to make decisions with confidence. Since the sensor is capable of identifying water and ice independently, it indicates the level of slipperiness in terms of reduction of friction.

As conditions deteriorate and road treatment is undertaken, continuous measurements along the route will allow you to inform the travelling public of current conditions, and for example trigger dynamic traffic control such as a reduction in speed limits.

## Pinpointing road treatment saves money

Anti- and de-icing agents such as road salt have been increasing safety and reducing accidents for decades. But the high cost of treatment and increasing concerns over environmental damage demand greater efficiency. Using sophisticated measurement techniques, mobile measurement will assist in tailoring winter maintenance programs to minimize chemical use while optimizing application time.

## Accident analysis

Vaisala Mobile DSC111 is instrumental in post-accident analysis. Police and highway authority patrols can collect and store road surface data en route to the scene that will serve as objective, scientific evidence to support accident analysis.

## Hard shoulder running

In the absence of vehicles in a lane or on a hard shoulder, the road surface can ice up in minutes. For those highway authorities able to open an additional lane for peak traffic, running Vaisala Mobile DSC111 along the lane prior to opening delivers a precise assessment of surface grip.

## Mobile or stationary

The utility pole-mounted, stationary version of this remote road surface state sensor is already installed at hundreds of locations on roads and highways throughout the world. As such the technology is tried and tested but as yet unmatched. This has now been taken mobile and offers a new way of assessing road conditions in real-time in a way and at an accuracy previously thought unobtainable.



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