

# Vaisala Guardian goes global



*Vaisala's non-invasive road weather information system advances road safety and with it, reduces allocation of maintenance resources. As of this winter, it's doing it worldwide.*

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For the last few years Vaisala's customers have had the opportunity to benefit from non-invasive sensors that measure the temperature and current state of a road's surface. The Vaisala Guardian Road Weather Information System, newly developed to serve customers globally, integrates the non-invasive sensors with a traffic weather camera, a data management system and a display. The result delivers a substantial improvement in the level of weather information for all kinds of roads from compact city and town networks to national highways.

In addition to the benefits delivered by the technology, the system is also cost effective, thanks to its easy-to-install design. Guardian can be quickly and easily mounted on existing structures above or beside

the road, such as masts, poles, and buildings, without having to stop traffic and cut into the road.

Non-invasive installation also means that the system can be easily relocated whenever necessary.

## Clearing the streets of Chicago

Chicago, the third largest city in the United States, is well-known for its snowy winters – on average, the city receives 39 inches (100 cm) of snow each year.

The Snow Command Center has a whole fleet of salt spreaders and plows in its service to keep Chicago's streets free of ice and snow. Timing the dispatch of the fleet, however, is no easy task, when there are 261 different routes to cover.

The Center has access to cameras, radar and Global Positioning Satellite information as well as road weather sensors. For a long time, their weather information needs were served by data generated from a network of embedded pavement sensors in various locations, but over the course of the years these turned out to be expensive to both install and maintain. As a result, the city now chooses Vaisala's non-invasive pavement sensors.

The sensors are deployed at key locations throughout the city, mainly on bridge decks, which have a tendency to freeze well before the surrounding roads. By utilizing existing light columns, the sensors were installed at a fraction of the time and cost of traditional pavement sensors.

## Real-time information to aid decision-making

The Guardian system uses laser spectroscopy to gauge pavement condition during all types of weather. The data it provides enables instant assessment of the road conditions and gives the maintenance authorities lead time to take appropriate actions before the conditions dete-

riorate. As guesswork is eliminated, road safety improves and maintenance resources can be allocated more effectively.

The system measures a variety of parameters: amount of accumulated water, frost, ice, slush, snow, and humidity as well as air and pavement temperature. For the first time ever for non-contact sensors, Guardian also derives a measurement of grip.

Grip is a valuable metric to gauge the need for winter maintenance actions. Together with temperature and state measurement, it helps decision-makers to determine 'just in time', how slippery the road is, which will directly impact on driver safety.

All Guardian data is presented in an easy-to-understand way that assists decision-making. The data can be accessed from anywhere over the internet. The system can also send automatic alerts to a PC, cell phone or PDA when detected conditions meet the thresholds specified by the user. The system also offers the potential to access shared information with neighboring systems to assist advanced decision-making.

## Modular and easy to install

The entire Guardian system is designed to be so straight-forward that customers may install it themselves, following easy to use step-by-step instructions. No complex connections or calibration of sensors are needed – once mounted and connected to power, just a hit of a switch is needed for the system to



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start transmitting data. As a part of the service, Vaisala provides 24/7 helpdesk support in many regions during winter to assist with any questions the user might have.

Guardian is designed to be modular, so it can be installed as a complete solution or as a starting point to develop a relatively low-cost broader system. It can also be smoothly integrated into other technologies strengthening the backbone of traffic management systems.

Building on the success of current installations, Guardian is now available for worldwide installation. Contact your local sales manager to find out more.

### Further information:

[www.vaisala.com/guardian](http://www.vaisala.com/guardian)