

Identifying Cold Spots



The temperature of the pavement does not remain the same even over small areas. Knowing where the coldest parts of the road network are is vital to winter road maintenance. Vaisala gives you the most accurate assessment of where differences occur, so you can keep a watchful eye on potentially dangerous locations.

Industry Leading Experience to Provide a Winter Strategy

Using proven technology, science-based analysis, and our team's extensive expertise we can identify stretches of road where temperatures are significantly colder than the rest of the road network. This is then combined with knowledge of accident locations, so we can help you identify locations where high incidents coincide with colder pavement temperatures. This knowledge is vital so that you can take the appropriate steps to avoid the risks to the travelling public. Vaisala teams

with you throughout the process to ensure that your existing knowledge is captured for future decision makers.

Our proven technique, called Thermal Mapping, has shown repeatedly to highlight cold spots that many people were unaware existed. It confirms your own knowledge, and gives you the confidence that you have as much information as possible to base your decisions. With this increase in the understanding of your network's temperature profile, you are able to make better decisions, thus saving lives and reducing costs. It can also be included in staff training, so everyone

is aware of these locations. Your Team will then understand why operational and policy decisions are made. Vaisala's Thermal Mapping technique has seen hundreds of thousands of miles mapped over the last 25 years. This experience is at your disposal to locate the coldest spots of road on your network. The output will be provided in the format that most suits you, from hard copy maps to inclusion in our latest state-of-the-art software. This means that the service will work well alongside other road weather solutions.

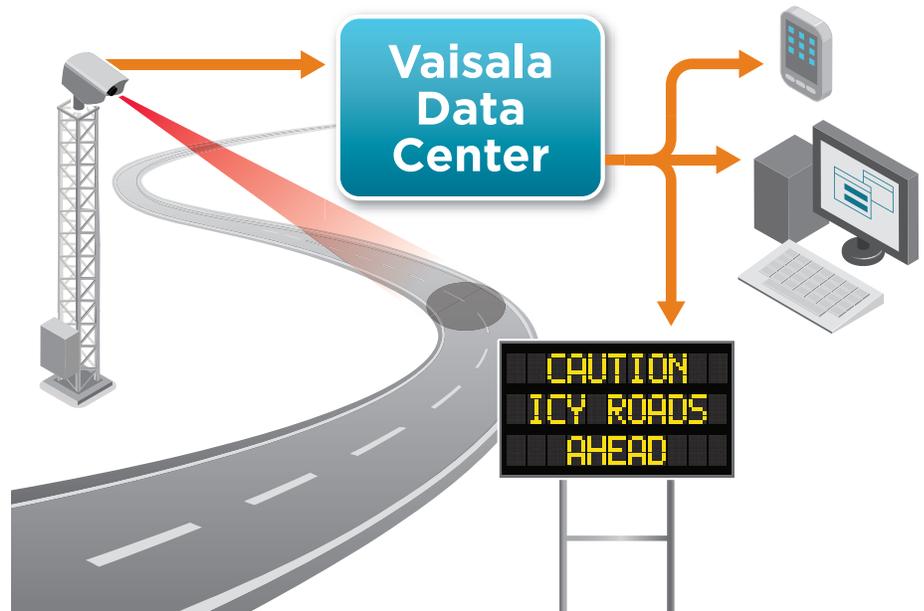
Automated Actions Reduce Mistakes and Improve Safety

Once a cold spot is identified, you can select the most appropriate strategy to address the hazard, such as selective treatment on nights with borderline temperatures. An even more hi-tech approach is to add road sensors and Variable Message Signs (VMS) at an identified location. These signs can be configured to activate only when conditions on the road surface present a danger. A key component to message signs is they are reliable, only warning motorists when true danger is present. Signs that are turned on and off by an operator leave the possibility for human error, which typically occurs when the sign is forgotten. Automation prevents this from occurring and ensures a precise record of the sign's activity is logged. Vaisala can also install and manage the data network, which will keep your overall costs low.

Mapping the network gives you more information to make decisions. Once the evaluation of the road is completed, you will receive final maps of the road network that was being investigated, as either digital files or hard copy. We also offer the ability to see the maps using our software for viewing current road weather station data, allowing you to monitor those targeted location conditions as they happen.

Why do Road Temperatures Differ from Place to Place?

Given the same weather conditions across a region it has been shown that road surface temperatures can actually vary by up to 10 degrees Celsius. This is due to many factors such as altitude, vegetation, make-up of the road, and how urban or rural the area is that the road runs through.



Using Identification Data to Alert Motorists

Putting Knowledge to Good Use

Vaisala's service doesn't just stop at knowing where the cold spots are – we can provide a fully automated solution for warning the travelling public that the road ahead may have become dangerous. By linking our world leading remote sensing technology with our Data Center, we can automatically operate roadside signs to warn the traveler of an upcoming hazard. This is especially important when the rest of the network is safe, but the known cold spot has fallen below freezing. The warning signs then only turn on when there really is a hazard, which minimizes false alarms.

Staying Ahead of the Problem

Once the cold spot has been identified, we can ensure that it is shown in our latest browser based software for you. If forecasts are being received for other locations on the network we can use the technique to estimate in advance what temperature the cold spot will drop to later in the forecast period. This will keep you one step ahead of the weather for these clearly identified trouble spots.

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For more information, visit www.vaisala.com or contact us at sales@vaisala.com

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