PRODUCT INFORMATION

Winter Dynamic Condition Data

What Is It?

The Gaist Global Partnerships Programme is focused on bringing the best global technologies available to the UK market- this collaboration between Gaist and Safecote forms a bespoke offering to the UK winter maintenance market making real time dynamic datasets available for the first time to local authorities and network operators.

Gaist, world-leading providers of roadscape insight and intelligence and Safecote, long-established winter service specialists, have worked in collaboration with Swedish onboard analytics company NIRA Dynamics to make aggregated real-time road information accessible to network managers, signalling a step-change in the level of intelligence available over the winter period.

Decision making by Winter Duty Managers over when and how to treat the network has traditionally been based on Road Weather Information Systems which combine weather forecast data with road temperature and live weather data from static weather stations. To increase coverage on their networks, councils have moved towards additional sensors embedded in the roads, connected by cable or mobile phone technology to automatic weather stations. Though time tested, the static limitations of these systems are well documented.

As global technologies have advanced, a far richer level of data is now available through this partnership to provide highway authorities with vital intelligence to:

- Underpin winter strategies
- Inform decision making
- More effectively predict and plan interventions to further improve winter road safety

What are the Datasets and how are they accessed?

The real time datasets consist of a combination of tyre-road friction readings, ambient temperature and windscreen wiper speed from passenger vehicles traversing the road network. Road Surface Temperature is not included as part of the standard offering but is another reading that can be activated pending negotiation. These readings are all mapped using GPS and timestamped, so you have clear information at all times.

The data is an aggregation of the many NIRA technology-equipped vehicles circulating on the UK road network with many being added every year. The readings you see are never the result of data from one vehicle: there is a tested and established minimum threshold of vehicles before any readings are activated in the user view.

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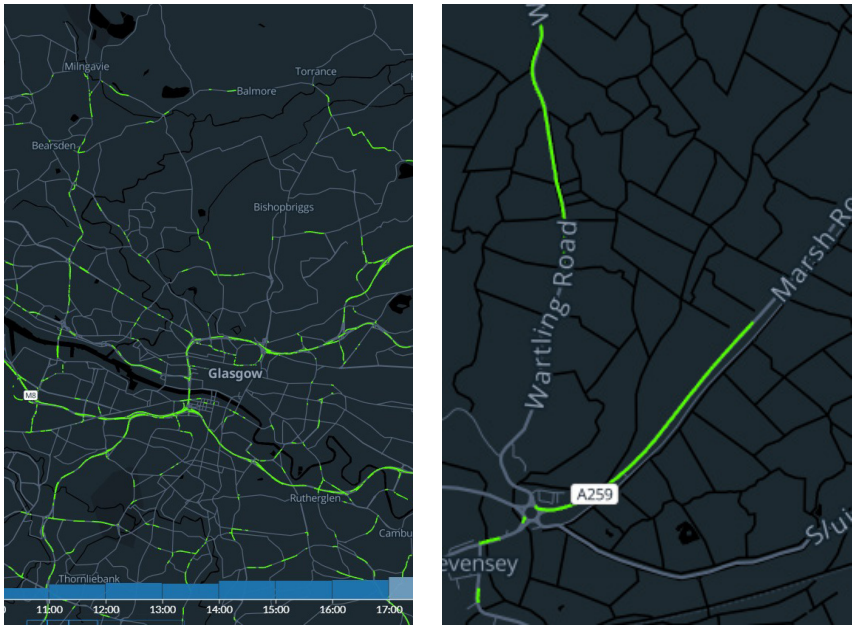
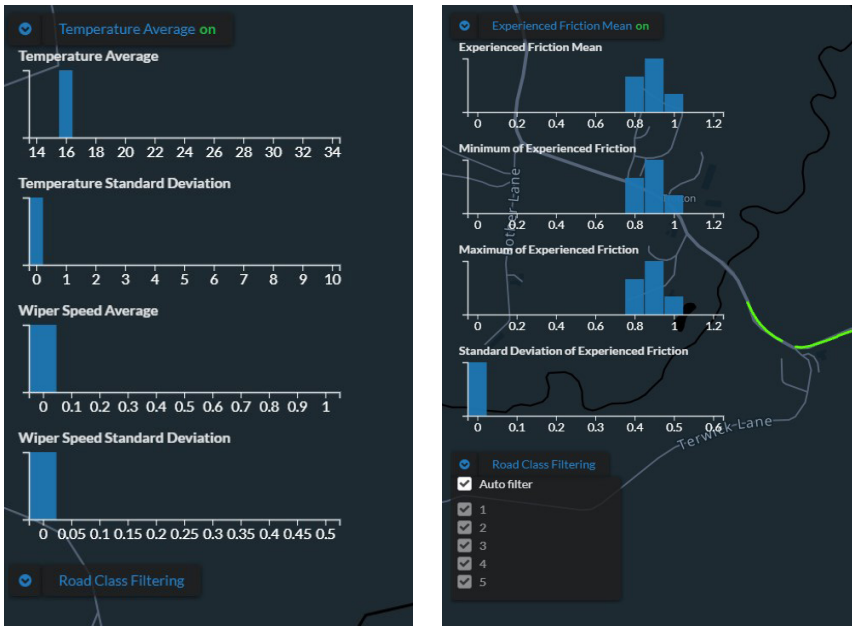
This is then used to create a set of map layers to give winter maintenance professionals access to a level of detailed information with which to inform their decisions in the short-medium term and strategically.

The datasets are accessible through Safecote BM Roads System or as an addition to your particular winter roads management system to combine and complement other winter-specific features.



Example images of the map interface displaying friction levels on roads



Example images of the ambient temperature and friction readings featured on the map interface

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What are the benefits?

Access to these dynamic datasets offer a wide range of benefits to winter maintenance teams:

REAL-TIME BENEFITS

- The data provides the ability to verify forecasts on the ground and complements the infill sensors, offering a continuous reading corroborating existing data available.
- The dynamic data provides the ability to monitor winter treatments in real time to ensure actions taken are having an effect.
- Enables dynamic decision making and optimal response in unforeseen/extreme weather events.
- Provides status across the network and the direction of trend in cold weather events.
- Evidence of vehicle grip following winter treatment.

IN-WINTER BENEFITS

- A combination of the new datasets and existing knowledge and techniques can combine to further inform treatments throughout the winter period.
- Routes and treatments can be better informed through dynamic maps showing how the user is experiencing the network and any recurring trends.

LONG TERM STRATEGIC BENEFITS

- Having this data allows a full Strategic Review, cross referencing pre-existing knowledge with new data to understand features such as salt spread rates and cold spots across a given network. This also enables historical evaluations for continuous service improvement and route optimisation through annual reviews.
- Savings and efficiency gains through a better understanding of how salt spread (and associated cost and emissions) is effective on your network.

You can read answers to more specific technical questions in our FAQs which can be presented on request.

Please contact **christina.liassides@gaist.co.uk** or **mdutton@safecote.com** to discuss how we can work together to make this groundbreaking new technology work for you this winter.

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