



winds[®] and Weather

winds[®] Weather Information and Data Service

Road **Weather** Remote Processing Unit and Black Ice Warning

Traffic in motion 

mic/KS

Road Weather Remote Processing Unit GMS 457

The general weather situation has a major influence on road safety, especially on wintery conditions. Providing proper winter maintenance services on communal roads means to be on the spot just in time and to prevent winter-related risks. A reliable and early warning against a change of weather shortens the reaction time of winter maintenance services and therefore makes roads safer.

To reduce costly inspections by car, micKS offers the road weather remote processing unit and black ice warning system GMS 457:

On site, the road weather remote processing unit monitors the weather conditions and, if required, gives information to winter maintenance services. This stands for more road safety on every weather condition. Networking several units facilitates an area-wide, dependable data acquisition and weather forecast.

Thereby winter maintenance service can be optimised, and better planning enables cost savings in operating schedule and work schedule.

micKS offers road weather remote processing units, installation and service as well as an information and messaging service from one source.



System Structure – Basic Configuration

In the basic configuration, a road weather remote processing unit consists of

- Controller
- Precipitation measurement
- Measurement of temperature and air humidity
- Road sensor

The atmospheric sensors of the road weather remote processing unit are assembled to a tubular mast while the controller GMS 457 is placed inside a weatherproof cabinet at the mast.

The system's heart is the controller to which all sensors are directly connected. All sensor signals are analysed, standardised data types are created and then reported to the connected centres.

A sensor for precipitation measurement detects type and intensity of occurring precipitation; rainfall and snow are identified reliably.

Relative air humidity and temperature are also important elements for the prognosis in the **winds®** service. With this data the temperature of the dew point can be determined and gives important information on the risk of black ice.

A road sensor detects data of the roadway and supplies substantial information on

- Surface temperature
- Freezing point temperature
- Water film
- Concentration of de-icing chemicals
- Surface condition

This data gives detailed information on the roadway conditions.

Already in the basic configuration sufficient information and reliable alarming of winter maintenance services is possible.



System Structure – Extensions

Further on, various additional sensors can be connected to the GMS 457 controller:

- Second road sensor (e.g. other driving direction)
- Wind measurement
- Visibility measurement
- Measurement of global radiation (intensity of solar radiation)
- Measurement of snow level
- Ground temperature measuring

Atmospherical sensors for wind measurement determine direction and speed of the wind; this way the danger of snow drift can be detected in good time.

Equipment for visibility measurement provides data on line-of-sight obstructions and therefore helps to improve traffic safety in endangered areas.



The Centre – Stand-Alone Application or Network?

For the interpretation of the collected data all road weather remote processing units are connected to a centre. For stand-alone applications a standard personal computer with defined hardware specification will do the work. Customised software packages allow the utilisation of the data for the support of the winter maintenance services and for documentation. Several remote processing units can be operated as a “stand-alone system”.

A more cost-saving and efficient use of the road weather remote processing units can be achieved by the integration into the **winds®** service (“weather information and data service”). In addition to data of the “own” remote processing units the inclusion of further data sources, e.g. weather radar and information from neighbour areas, improves the quality of weather forecasts and winter maintenance planning for all roads.



What's *winds*[®] ?

The information service *winds*[®] collects and processes data from road weather remote processing units and merges it with additional data, e.g. national weather service, weather radar, weather forecast, global weather conditions, etc. All the information is then consolidated to stretch-related statements.

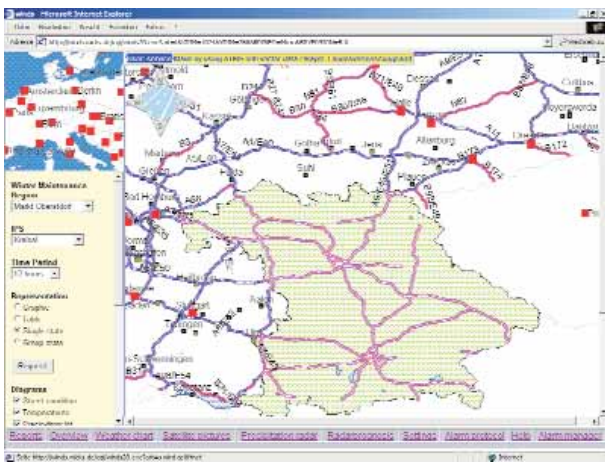
For *winds*[®] users and subscribers processed data is made available via the Internet, an alarming service is available on request:

At critical weather conditions, the responsible department will be called automatically and can react in time to changing conditions.

That way administrative districts, local authorities and private service providers always have up-to-date information for reliable early warning systems and thus optimal winter maintenance planning.

winds[®] offers its users a multitude of information, such as

- road maps with location of stations and roadway conditions
- current and forecast data from remote processing units, displayed for the single station or as functional group
- review functionality, illustrated in graphical or table format
- data export in a universal data format
- weather charts
- satellite images
- rainfall radar and forecast
- area-related road weather forecasts in table format
- road weather warnings



winds[®] - Easy to Use

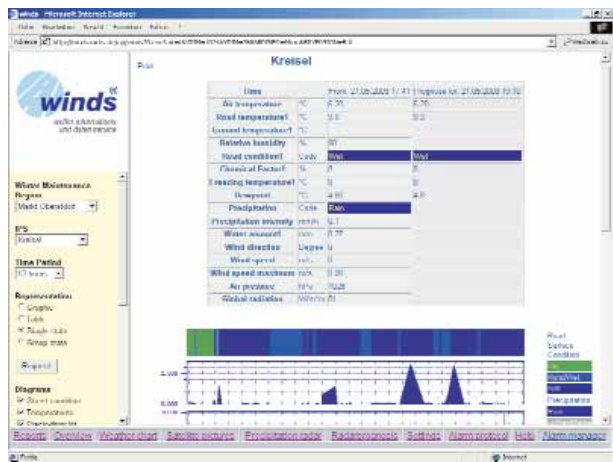
By using the service road weather information of defined areas can be acquired directly and prepared for own actions. Utilisation of *winds*[®] is also possible without an own road weather station or black ice warning system.

Operators and/or owners of weather stations and black ice warning systems deliver data to *winds*[®]; this data is refunded according to a defined system. The subscription of *winds*[®] can be used all-the-year, a suspension during summer is also possible. All you need for the utilisation of *winds*[®] is Internet access and your password.

Alarming or notification of users results from individual and client-specific priorities and criteria. For example, alarming is possible on the basis of precipitation, temperature, road surface conditions or on a combination of parameters.

For alarming of the responsible authorities almost every telecommunication device can be used: Phone, fax, e-mail, mobile phone, pager, PC, portable computer, etc.

Data acquired by *winds*[®] will be long-term archived. Therefore utilisation as a proof for insurance companies or for retroactive evaluation is possible.

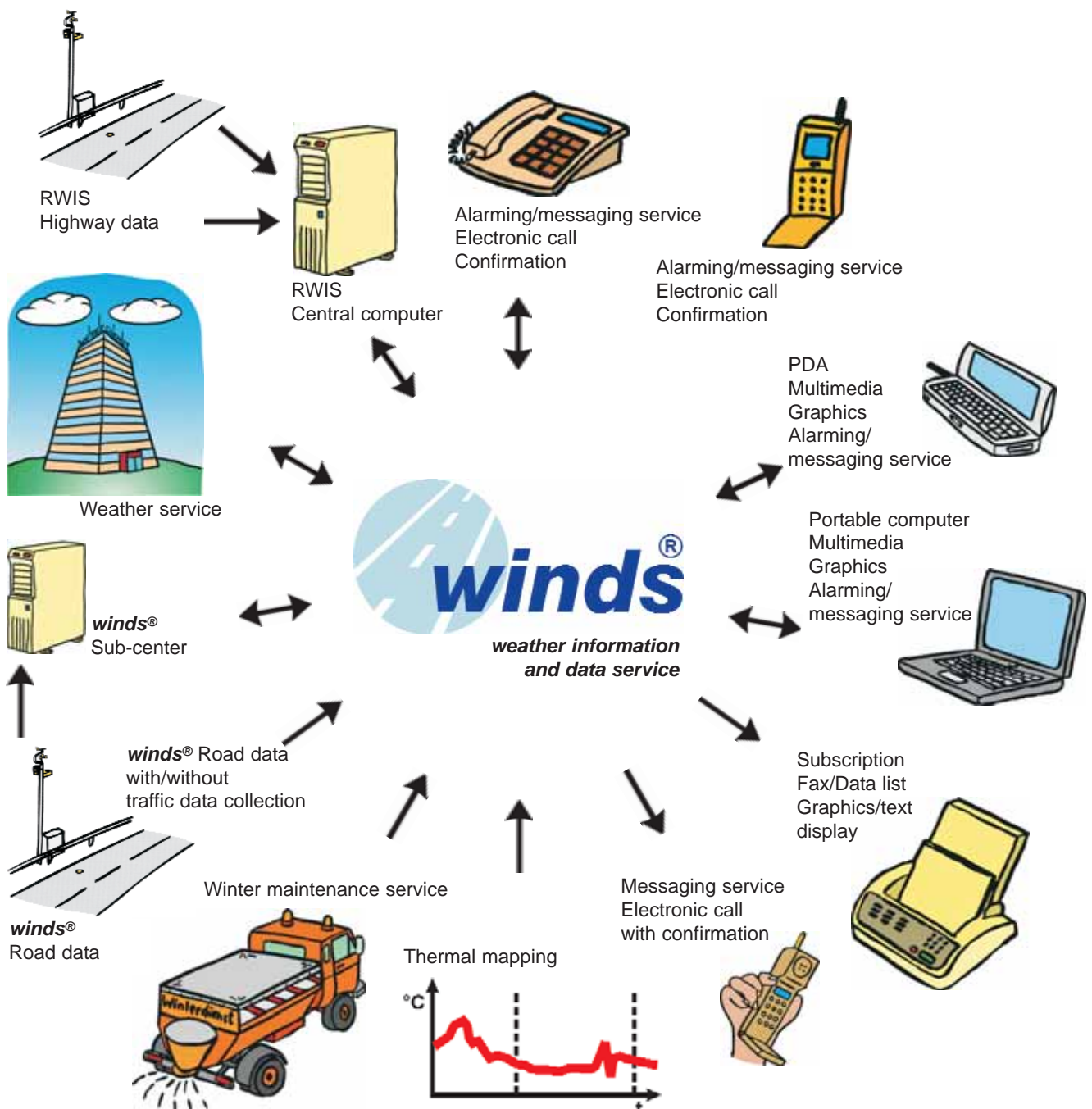


Benefits of winds®

Participation at **winds®** weather information and data service offers best conditions for the optimisation of winter maintenance services.

A dense network of connected road weather remote processing units makes it possible to deliver up-to-date statements on regional weather conditions. A large data base, in conjunction with further information, enables **winds®** to make dependable forecasts over a long period of time.

Fast availability of standardised data makes it easy to coordinate actions with neighbouring departments. Costly and time-consuming inspections by car are no longer necessary, faster reactions of winter maintenance services make winter roads safer. Moreover, costs for maintenance resources and working hours can be reduced significantly.



mickKS in the Signalbau Huber Group

Founded in 1989, mickKS is a manufacturer and provider of black ice warning and environmental data information systems for roads and runways.

Our systems do acquire parameters like precipitation, air temperature and humidity, wind and road surface conditions, in short: the road weather. We concentrate this information in our computer centers, analyse it and inform our customers about the weather in their areas and about the according forecasts. So our systems do deliver important information for decision makers in winter maintenance services.

mickKS is a company of the Signalbau Huber Group. The companies of the Group work in the business fields of traffic technology and telematics. Close co-operation with other companies in the group enables us to provide the ideal solution for every traffic technology requirement.

The Signalbau Huber Group operates internationally and is represented in various countries.

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Editor: mickKS GmbH
Last update: June 2003

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Technical data subject to change! MI-WI-EN-07/03

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