



**Road Condition Monitor RCM411**  
**Real-time information**  
**on winter road conditions**




**Teconer**



**Ice or snow on the  
road/runway surface?**

## **Road Condition Monitor RCM411**

# **Reliable mobile real-time measurements on the road**



Do you want to follow the performance of  
your own operators and subcontractors as  
they execute winter maintenance operations?  
Do you want to be sure that you guarantee  
safe conditions for the drivers?

**Slippery conditions  
detected and avoided?**

"I highly appreciate your professional and good service."

"Tests we have conducted so far show that the RCM411 gives a very accurate friction value."

"We believe that this type of technology is very useful to support monitoring of the driving conditions on the road network."

**Torgeir Vaa, Senior Principal Engineer, Norwegian Public Roads Administration**

"We have used the services of TECONER in the development of winter maintenance management, several consulting tasks and research since 2009, and the experiences have been good. We have also utilized the friction measurement products to achieve the best results in operations."

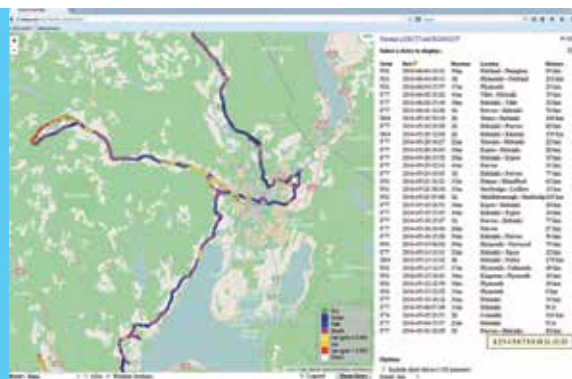
**Seppo Kaarto, Winter Maintenance Management Centre, Destia, Finland**

"A colleague is now driving with RCM. I follow his track on the screen and talk to him on the phone, I must say I am impressed by the update frequency, on 15 sec update interval the track is practically in real-time!"  
"We now have stowed our RCM411 for the summer after a promising first experience with it."

**Skuli Thordarson, Dr Ing, Service Department, The Icelandic Road and Coastal Administration**



Installation of RCM411 Road Condition Monitor in the vehicle.



Detected surface states along the driven route on a map interface in Friction Road Map.



Mobile phone user interface in the vehicle. The system includes a braking friction meter application on the mobile phone.

### Reliable mobile data on

- road surface condition
- friction: continuous measurement and braking friction application
- layer thickness
- surface temperature

### Cost effective solution

#### Optical sensor optimised for mobile use

#### Scarcely any maintenance cost

- no wearing parts

#### Simple installation

### Winter maintenance operations

Use the RCM411 Road Condition Monitor for:

- follow-up of effectiveness of snow ploughing and de-icing agent distribution activities
- training of new personnel
- optimisation of de-icing operations resulting in:
  - decreased cost while
  - maintaining good level of safety for drivers and
  - decreasing environmental impact

### Quality control of winter maintenance operations

Use of the RCM411 Road Condition Monitor provides you with:

- feedback on performance of outsourced operations
- instruments to discuss the quality level of operations with subcontractors

### User interfaces

- mobile phones or tablets in the vehicle
- data communication to selected servers
- results on a map interface as colour coded lines, see <http://keliapu.net/map>
  - friction measurement
  - surface state (dry, moist, humid, wet, icy, snowy, slushy)
  - water/ice layer thickness
  - surface temperature

### RCM411 applications

- winter maintenance
- quality control
- active spreading of deicing agents
- friction mapping
- thermal mapping
- information to drivers
- warning for aquaplaning



# Inventive Measuring – Ingenious Evaluation

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