

# ROAD WEATHER INFORMATION SYSTEM IN ESTONIA 2017

Tõnu Asandi

Estonian Road Administration  
Road maintenance department

# Estonian RWIS – what is it?

- Road weather information system (RWIS) in Estonia consists of:
  - 68 road weather stations (including 3 stations owned by local municipalities)
  - 112 road cameras (including 19 real-time cameras)
  - 4 VMS signs
  - servers for collecting, processing and storing the data
  - 2 web pages for presenting the data

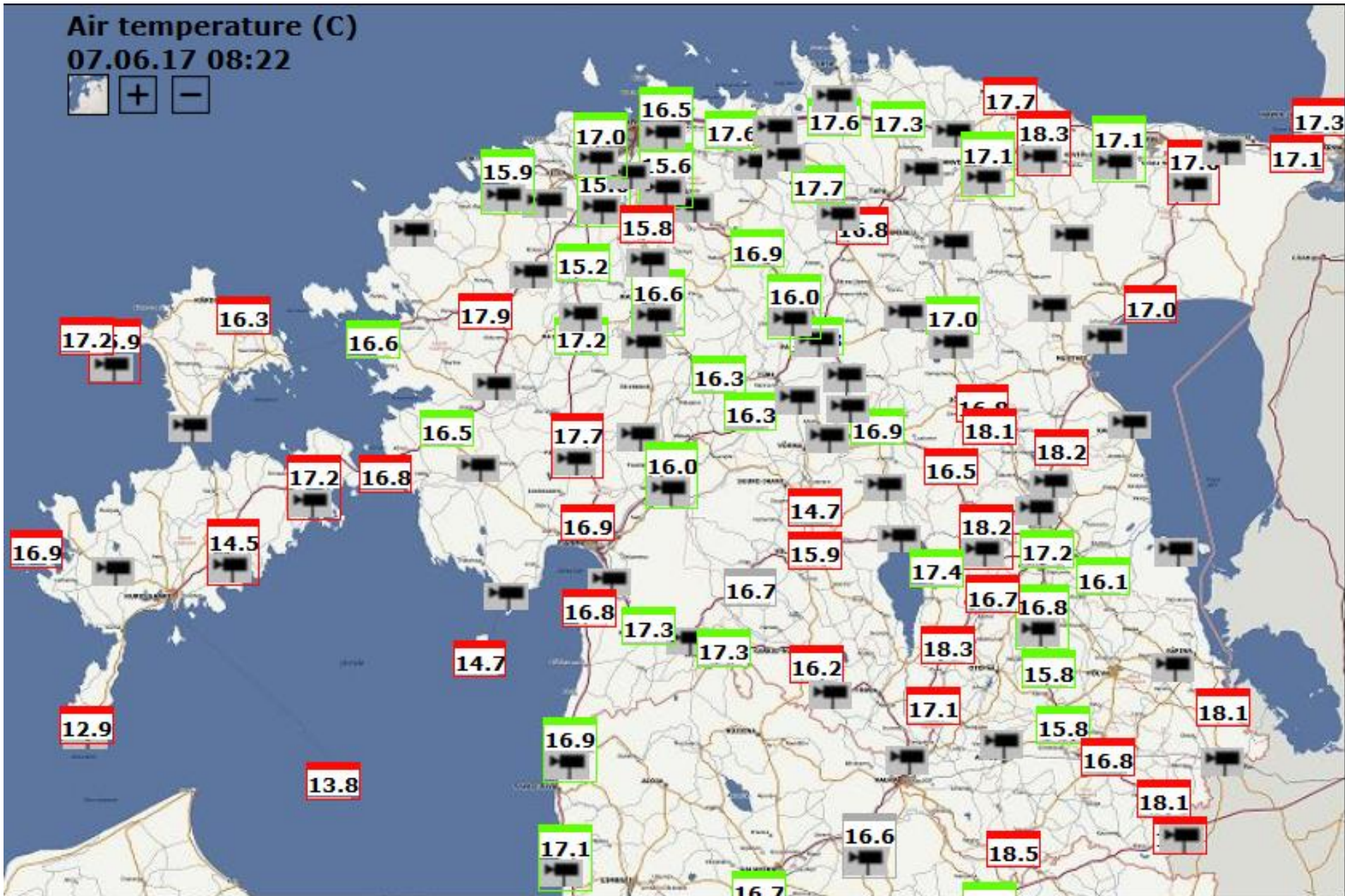
# What kind of weather stations

- 23 swedish stations (SAAB)
- 2 swedish stations with optical sensors (SAAB+Vaisala)
- 36 finnish stations: 31 ROSA + 5 RWS200 stations (Vaisala)
- 7 finnish optical stations DSC+DST (Vaisala)

# Weather station map

Air temperature (C)

07.06.17 08:22



# Ikla station (finnish)





# Finnish road sensor



# Finnish road sensor





# Kassinurme station (swedish)





# Swedish road sensor





# Swedish road sensor

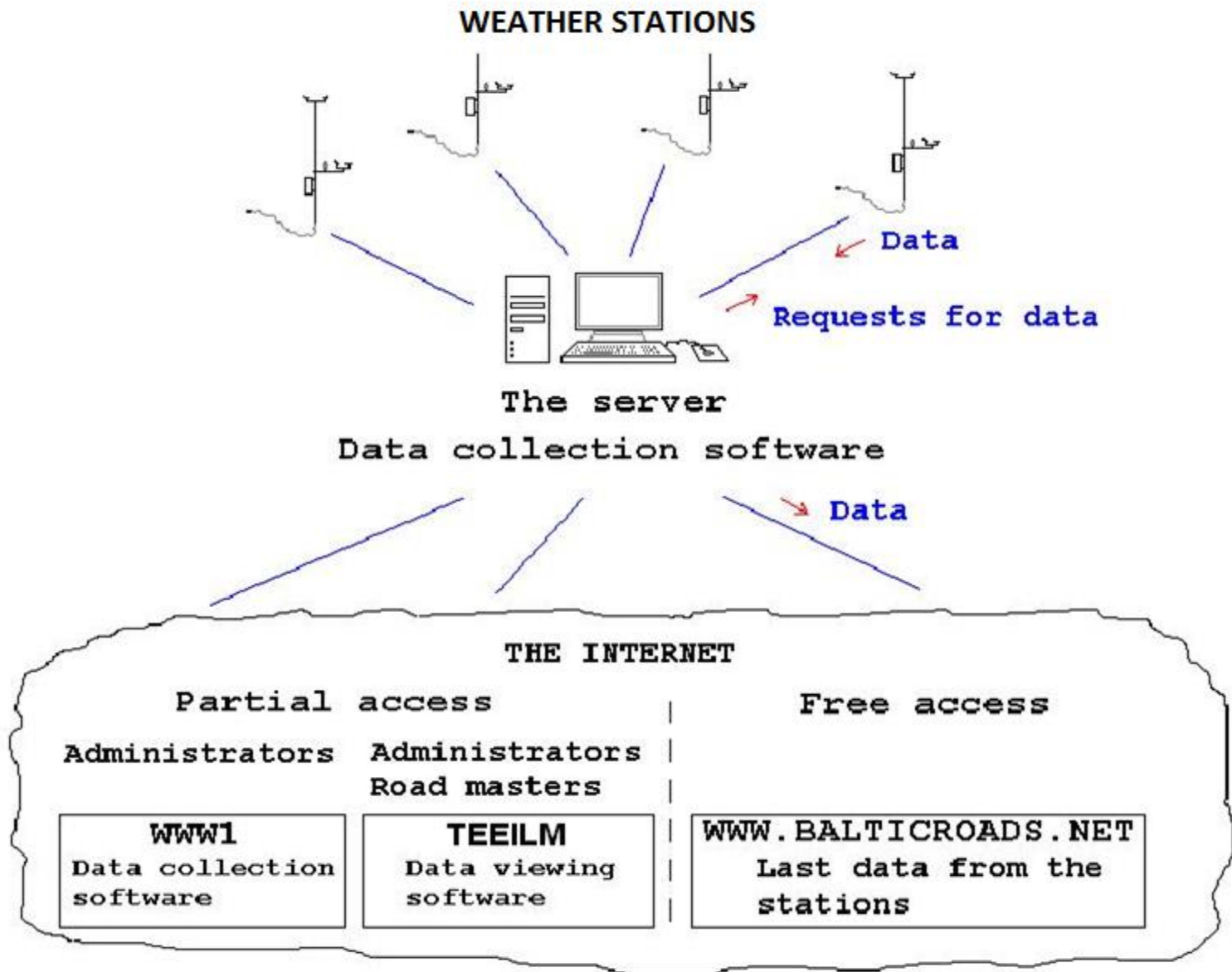


# Finnish optical sensors





# Data management



# Muhu road camera



# Kuusalu road camera



KUUSALU 2012-01-11 11:07:21



# Meerapalu road camera



## 2 web pages

**Teeilm** web page is for road masters, a username and a password is needed for full access and it contains all the information we have from road weather stations, including salting information and other specific parameters.

**Balticroads** web page is for all road users, no chance to log in and only main 11 weather parameters are available.

# RWIS history

- First 4 road weather stations in 1995
- First road camera in 1999
- First VMS sign in 1999
- First internet web page in 2000
- First optical weather station in 2006
- First real-time camera in 2010
- First road camera on gravel road in 2016
- First new Vaisala RWS200 station in 2017



# Future plans

- First weather stations are already 22 years old - renewing of old weather stations (35 stations in total during 2016-2018, it means a bit more than half of the network, including 4 new locations), 5 stations already installed in 2017 (RWS200), cost per station ~30 000 eur, no optical sensors, mainly old SAAB stations are replaced, total investment ~1,05M eur
- Installing of 10-15 new road cameras a year during 2018-2020

# Future plans

- Continuing the development of good quality road weather prognosis in Estonia (I test was done during February-May 2015 and II test during winter 2015/2016, Foreca was producing road weather prognosis data for winter 2016/2017)
- Our main goal - 5-year contract with Estonian Meteorological Institute for development of road weather prognosis
- Continuous development of RWIS web page Teeilm

# Future plans

- Improving the quality of educating road masters, the goal is to use RWIS more efficiently
- Road weather information center – developed by private companies, first test was done in winter 2016/2017, service was free for maintenance companies
- Testing of new RWIS equipment
- First road weather station in Tallinn in 2018(?)



# Maintenance of RWIS

- Currently a 3-year contract (October 2014 – September 2017) for the whole system
- 1 year of maintenance costs ~ 180 000 EUR
- Fixed prices for all different types of equipment (RWIS station, road camera, VMS sign and server)
- Extra money will be paid only for spare parts that cost 2 000+ euros and for replacing broken road sensors (prices are also fixed in the contract)
- New open bidding for years 2017-2020

# SMART E67 project

- Cooperation between Estonian and Latvian Road Administrations in 2016-2018
- Budget ~2,3M eur (around 1M eur for Estonia)
- Project goal is to minimize driving time on road E67

# SMART E67 project

- Different kind of new equipment will be installed: VMS/VSL signs, road weather stations
- Optimization of operation of traffic lights
- Equipment will be installed in 2017, everything should be working on June 1st, 2018

# SMART E67



TALLINN

INFO

INFO

INFO

INFO



PÄRNU

IKLA

INFO

INFO

INFO



RIGA

GRENCTALE

What if winter road  
maintenance fails?





Thank you for your time!

Comments and questions please  
send to:

[tonu@mnt.ee](mailto:tonu@mnt.ee)