Administrative view of RWIS in Finland

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1. INTRODUCTION

At the beginning of year 2001 the former Finnish National Road Administration was divided into two: the Finnish Road Administration (Finnra, administrative authority), and the Finnish Road Enterprise (contractor). The Finnish Road Weather Information System (RWIS) was started in the 1980s. Since then it has been gradually developed as a winter maintenance tool.

As the winter maintenance was opened to competition, it also had an influence on RWIS. The road weather information had to be made available to all winter maintenance contractors as easily and reliably as possible. The new procedure also influenced the acquiring of the RWIS: according to Finnra's strategies all acquisitions have to be made through competitive bidding and contracts.

The purpose of this presentation is to describe the complex governing and administration of the Finnish RWIS, which, as a very important system in Finnra, has an influence through the organization.

2. THE ADMINISTRATION OF FINNISH RWIS

Finnra consists of the Central Administration and nine Road Regions. The Central Administration is responsible for steering and management as well as expert and administrative services. Most involved with administration of RWIS are Head office and Technical services.

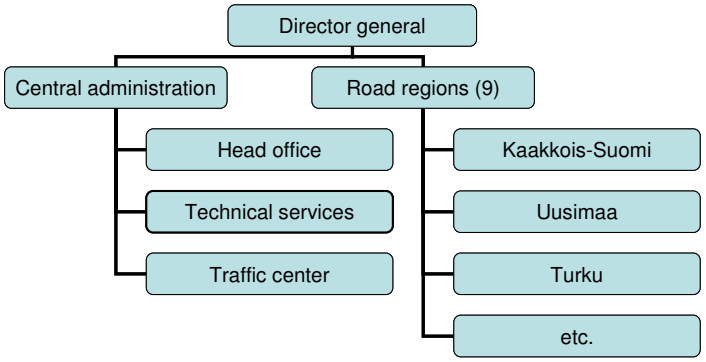

Fig. 1. The organisation of the Finnish Road Administration

2.1 Head Office

Head office is responsible for steering and governing the activities and operation of Finnra. In Head office the teams involved in RWIS are management team, procurement team, road management team and administrative team. As the most important role of RWIS is to help in winter maintenance, the road management team is especially involved in administration of RWIS.

2.2 Technical Services

Technical Services is responsible for technical and administrative expert- and authority services and r&d-activities. In Technical Services the connections to RWIS are:

- *Road and Traffic information -division (ATL):* governing both developing and maintenance of RWIS, financing
- *Technical Services (ATP):* governing both developing and maintenance of observation station network, financing
- *Data management services (ATI):* financing

2.3 Traffic management network

RWIS and other matters concerning traffic management are governed in cooperation through processes and units in a product network, Traffic management network. The members of the network come comprehensively from head office, technical services and road regions so that in the network there is a good understanding of traffic management as a part of road management. The action of the network is governed by the road management director

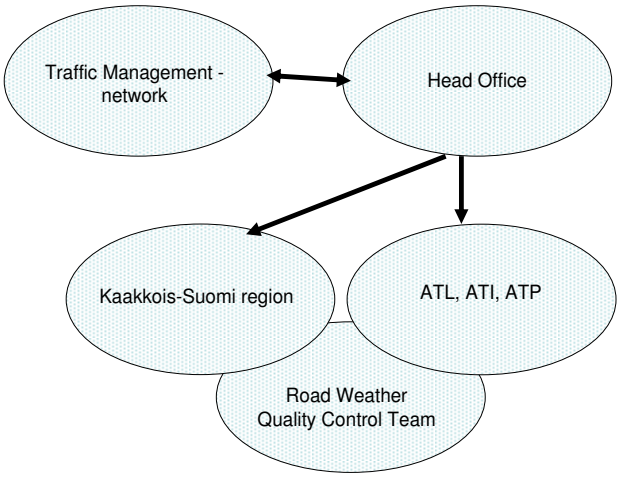

Fig. 2. Traffic management network

2.4 Road Weather quality control team

Road Weather quality control team consists of quality manager and three members. The team is responsible for following:

- the road weather system is working according to requirements
- the road regions abide by uniform procedures and practises
- the contents of maintenance contracts are uniform
- the requirements of quality management system are met
- matters concerning quality management are communicated to contractors and other interest groups
- the deficiencies in operations are reported and corrective actions are defined

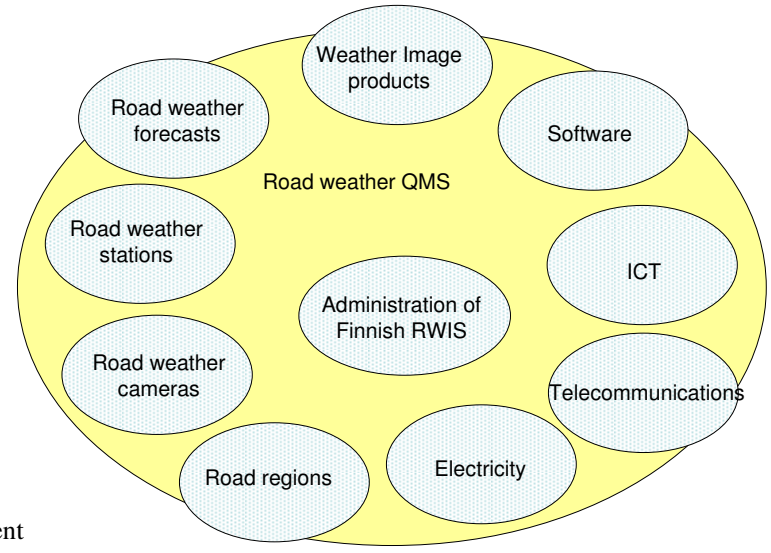

Fig. 3. Road weather quality management

2.5 Road Regions
The nine road regions own and administer the road side equipment in their areas. The administering includes acquiring new stations and cameras and electricity and telecommunications for them, and maintenance of the stations and cameras. The road regions are guided and instructed by the Road Weather Quality Manual.

2.6 Kaakkois-Suomi region,
Traffic Services -division, Traffic -team: taking part in development projects and quality control team, administrating the system.

3. CONTRACTS AND CONTRACTORS CONCERNING THE FINNISH RWIS

3.1 Road Weather Stations
There are 350 road weather stations in Finland (autumn 2005).
Acquiring: Each road region acquires road weather stations for their own area, and the stations are financed and owned by road regions.
At the moment there is a general agreement with Vaisala. In the future there may be a national competitive bidding every two or three years, followed by a general contract with the chosen supplier, providing there is a demand for a substantial amount of new stations.
Maintenance and repairs: Each road region acquires maintenance and repairs individually after a competitive bidding. At the moment there are nine separate contracts on maintenance, four different contractors (but more bidders), and the contracts are of different length, but the aim is to enlarge the areas and lengthen the periods of the contracts. Also a possibility to "total service" -contract will be examined. That would be a contract, where the contractor keeps the stations in good working order according to Finnra's quality standards at a predetermined all-inclusive price.

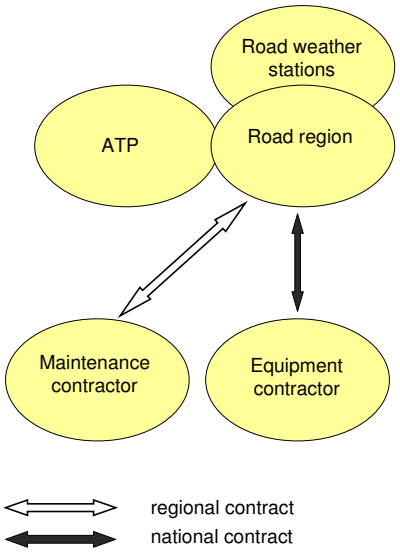

Fig. 4. Road weather stations and contracts

3.2 Road Weather Cameras
There are close to 300 road weather cameras in Finland (autumn 2005)
Acquiring: There is a centralized nation-wide competitive bidding on cameras every two or three years, after which a general contract with the chosen supplier will be entered into. During the bidding process the cameras of different bidders are also tested and compared on-site. The current contract is for two years with an option for one more year.
Each road region acquires cameras in accordance with the contract. The cameras are financed and owned by the road regions.
Maintenance and repairs: Technical Services coordinate the centralized nation-wide competitive bidding on maintenance and repairs, and makes the contract. At the moment the contract is for two years, with an option for one more year. The road regions finance the maintenance and repairs of their cameras.

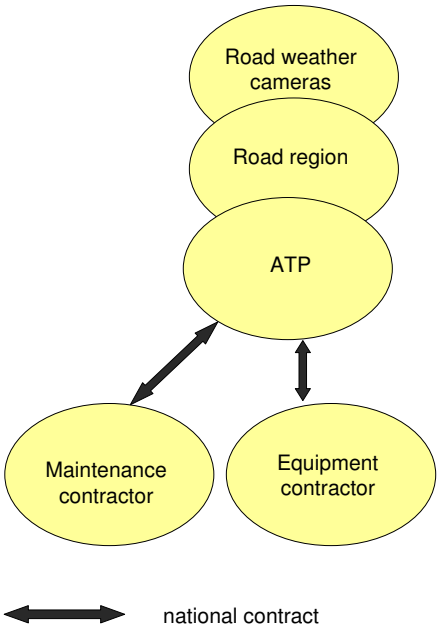

Fig. 5. Road weather cameras and contracts

3.3 Road weather forecasts

ATL, with authorisation from road regions, takes care of the competitive bidding of Road weather forecasts and the national contract is made for three years period. The service is available eight months a year, from mid-September to mid-May. The service consists of several different forecast products. The quality of the forecasts is evaluated by reports from contractor and systematic user assessments. Every two months during the season there is a special quality control meeting with representatives from both Finnra and the contractor, where user feedback, quality criteria and delivery reliability are assessed. The contract includes a possibility for a bonus, if the defined quality level is exceeded.

The expenses of the contract are divided between the road regions taking into consideration the traffic volume, the length of the road network and the costs of winter maintenance.

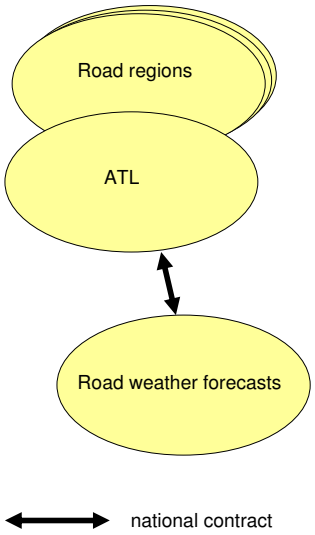

Fig. 6. Road weather forecasts and contracts

3.4 Weather image product

There is a national three year contract on Weather image products with Finnish Meteorological Institute (FMI). The contract is negotiated by ATL with authorisation from road regions. While the radar network in Finland is owned by FMI, there is no possibility of competitive bidding.
Weather image products consist of several different products, such as various radar and satellite images. The images are transferred to Finnra by FMI, which is also responsible of both the transfers and the contents of the images. The contract includes sanctions for technical problems.
The expenses of the contract are divided between the road regions, taking into consideration the traffic volume, the length of the road network, the costs of winter maintenance and the cover of radar network.

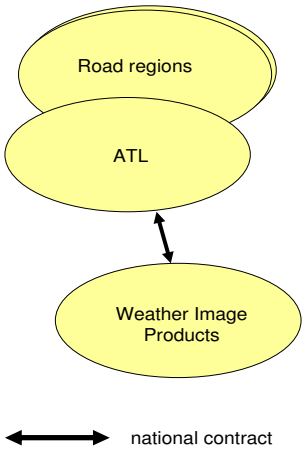

Fig. 7. Weather images and contracts

3.5 Software

Current software: There is a maintenance service contract for current software with the company that has made the software. The contract covers correcting software faults, making small changes to the software and adapting the existing software to changes of versions in operating systems or data bases.
New software: Finnra had a competitive bidding for realising new software and a general contract was made with three software companies. Additionally, it is possible to ask some other company for a bid.
Also the maintenance of new software can be placed under competitive bidding. The contract would then include the availability to start work, and the actual work would be charged by the hour.

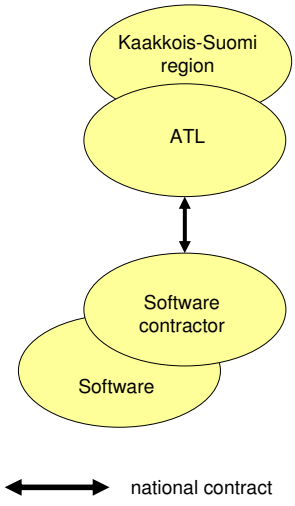

Fig. 8. Software and contracts

3.6 ICT

The servers and the telecommunications equipment are leased as a part of the acquisition contract of Finnra. The contract has been entered into without a competitive bidding.

Also the operating services are acquired as a part of a larger five year Finnra contract, which consists of the basic maintenance of servers, data bases and telecommunications. Also data security, antivirus software, back-ups and software activity monitoring are included in the contract.

A project has been started to enhance the monitoring and controlling level for critical road side systems. It may also lead to separating the road side technology from the office ICT-environment. The first competitive bidding was completed a year ago, the takeover is now going on, and the actual production of services will start in the beginning of 2006.

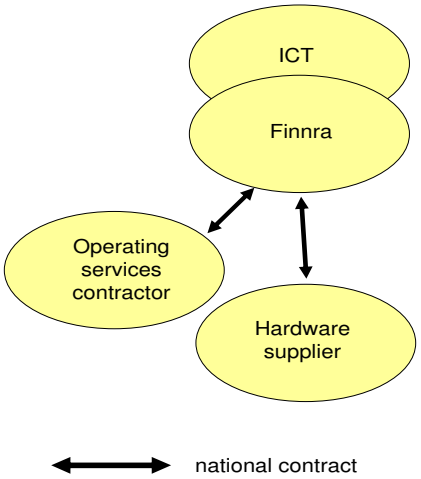

Fig. 9. ICT and contracts

3.7 Telecommunications

Telecommunications between the road districts and head office are acquired with a contract made by head office.

Telecommunications for road side sites is acquired by the road regions on basis of a national general contract. The contract is for five years with an option for two more years.

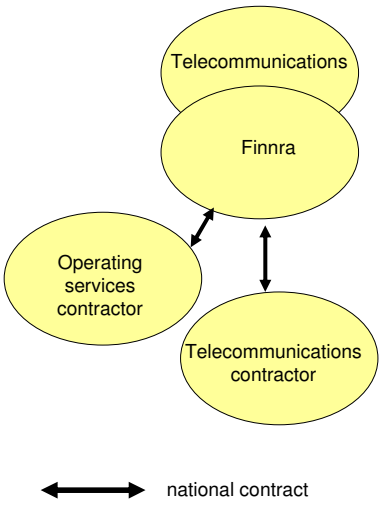

Fig. 10. Telecommunications and contracts

3.8 Electricity

Electricity subscriber connections for stations and cameras are acquired by the road regions from local electric power distribution network owner. Acquiring the electricity for a road weather station or a camera can also be included in the contract when acquiring a road weather camera or a road weather station.
The electric power is acquired via a competitive bidding every two years.

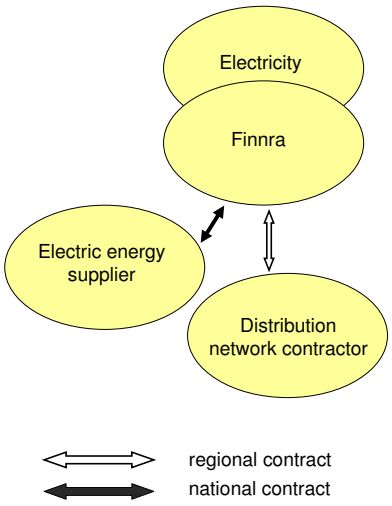

Fig. 11. Electricity and contracts

3.9 Road Weather Quality Management System

The aim of the Road Weather Quality Management System is to improve and harmonise the quality and reliability of road weather information. With the help of quality manual and its' appendices, internal and external audits, and the Road Weather Quality Information System, the road weather quality management system is guiding the whole process of producing road weather information and helping in creating uniform practices.
The Production of Road Weather Information was ISO9001:2000 certified in September 2004.


Certification
Awarded to
Finnish Road Administration
Opastinsilta 12 A, FI-00520 Helsinki, Finland
BVQI certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standard detailed below
STANDARD
ISO 9001:2000
SCOPE OF SUPPLY
Production of Road Weather Information
Original Approval Date: 17 September 2004
17 September 2007
Date: 29 September 2004
Certificate Number: 161120A

Fig. 12. ISO 9001:2000 certificate

4. SUMMARY

The Finnish Road Weather Information System is a very complex entity, administration of which requires good coordination. Quality management is a very important part of the multi-contractor environment of the road weather system, when Finnish road administration takes care of administrative tasks, and the actual work is based on competitive bidding and contracts. A certain level of quality is required in contracts, and the level will also be monitored.