Road Directorate

Cost effective monitoring of RWIS

Communication and maintenance

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or

how we at the same time

- reduced the transmission costs with 55 %
- reduced data collection duration with 70 %
- improved reaction time on communication incidents

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Overview

- Organization of RWIS
- Technical structure of RWIS
- Communication in RWIS
- Summary
- Future development

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Organization of RWIS

- 320 measuring stations
  - 150 owned by municipalities
  - 150 owned by The Danish Road Directorate
  - 20 owned by other road authorities

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Organization of RWIS

- 320 measuring stations
- 100 % Internet connections
- 1 system database with observations and prognoses
- 1 back-up database for observations
- 1 web/java based presentation software

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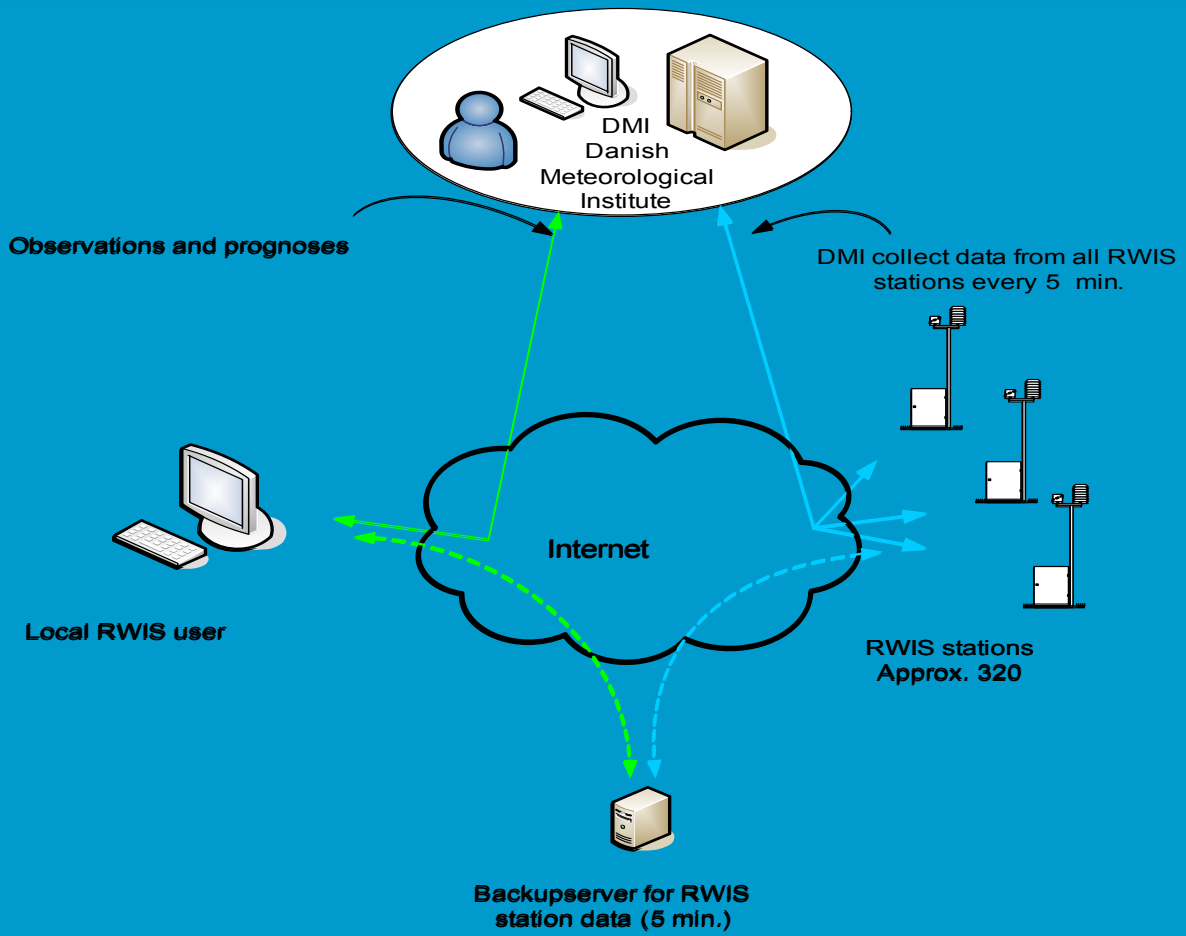
Technical structure of RWIS



Communication in RWIS

- Samples of installations
  - Wireless low power installation

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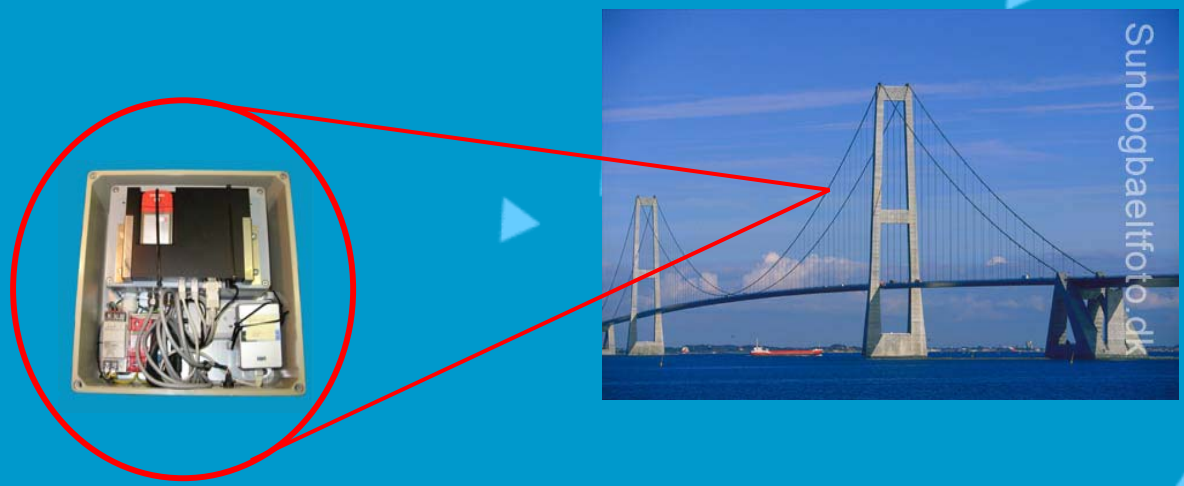
Communication in RWIS

- Samples of installations
  - Redundant installation



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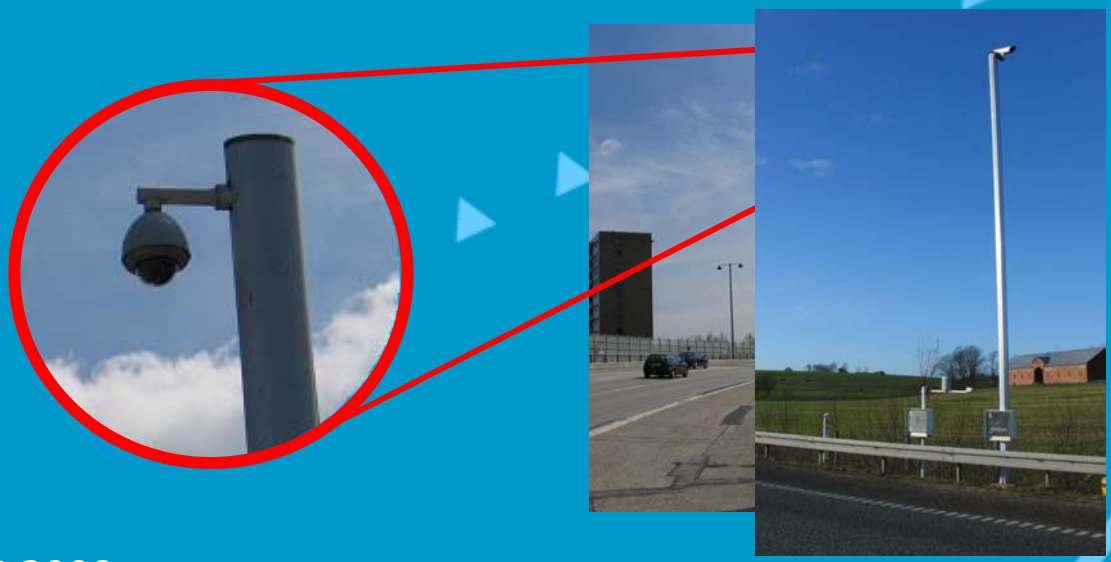
Communication in RWIS

- Video at measuring stations
  - WEBCAM for snow observations
  - PTZ cam for traffic observations



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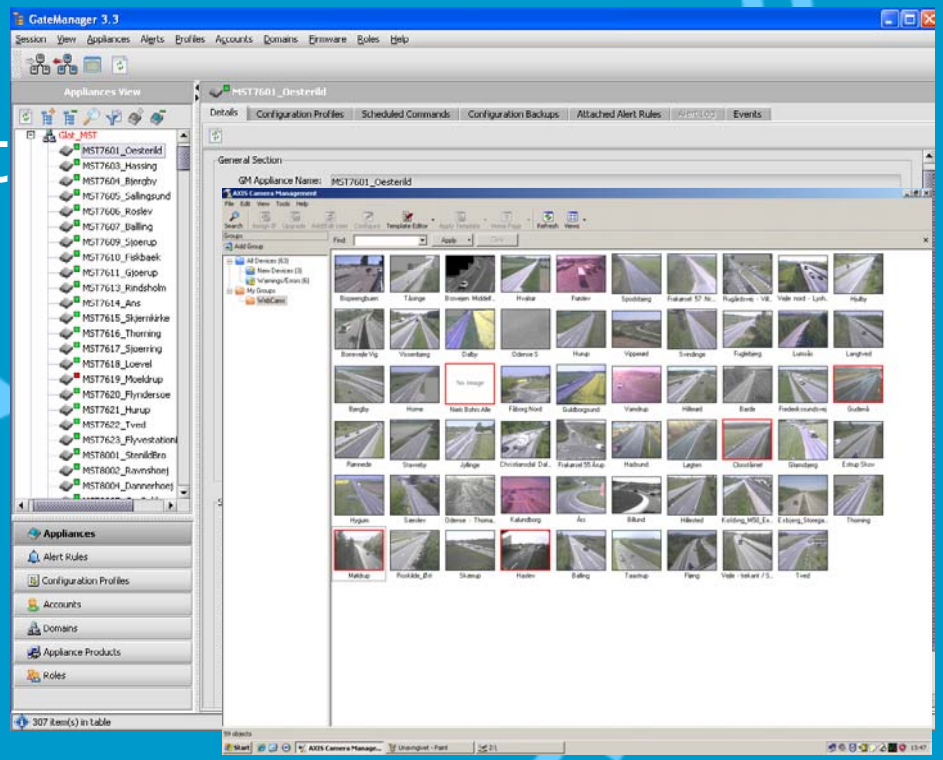
Communication in RWIS

- Tools for service and maintenance
  - GateManager
  - Webcam monit



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Summary

- Improved data collection duration
  - 7 minutes ➔ 2 minutes for 320 stations
- Economic savings for transmission
  - 1850 € ➔ 815 € per station per year
- Better tools for maintenance
  - Automatic information on events, e.g. e-mails to service center

Future development

- Next challenges
  - Proactive failure service of measuring stations via GateManager
  - Increase system up time by statistics on failure events