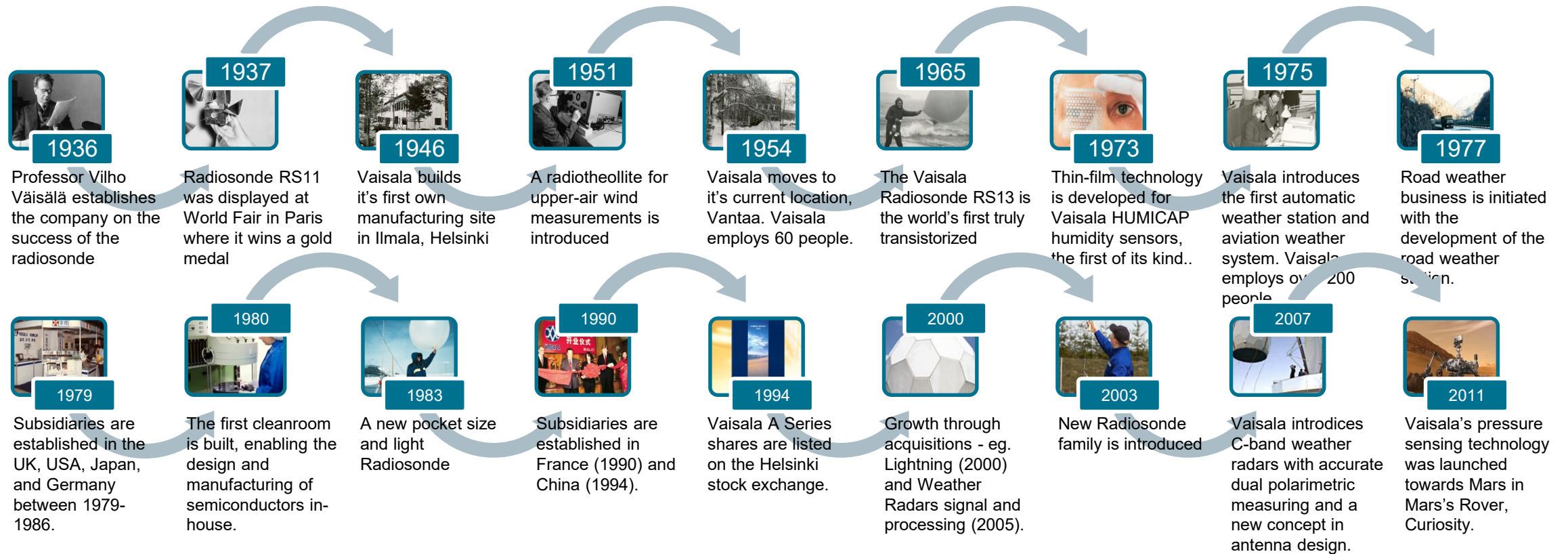


Air quality monitoring reinvented

A low cost air quality monitoring network solution
from Vaisala

VAISALA

Vaisala - 80 years of environmental observations



Vaisala offering range

Weather Instruments

Reliable, accurate environmental sensing

Visibility and present weather
Cloud height and sky condition
Wind and precipitation
Temperature and Pressure
Road and runway condition



Weather Systems

Capturing past, present, and future environmental conditions

Automated Surface Weather Observing Systems
Automatic Weather Stations
Observation Network Management
Data Quality Control



Information Services

Transforming weather data into decision information

Weather Information for Critical Operations
Decision Support for Transportation
Renewable Energy Decision Services
Expert Consultation



Soundings

Assessing the state of the atmosphere from the ground up

Radiosondes
Dropsondes
Autosondes
Ground Stations



Vaisala air quality instruments

Easy to deploy in quantities

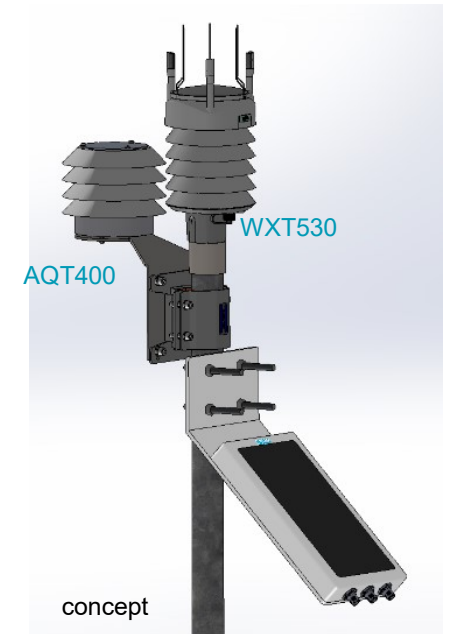
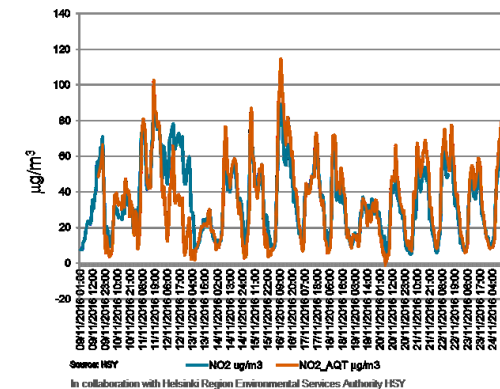
- Compact
- Fully wireless, solar powered

Low maintenance

- Annual to biannual interval
- Easy to do locally

Near reference performance

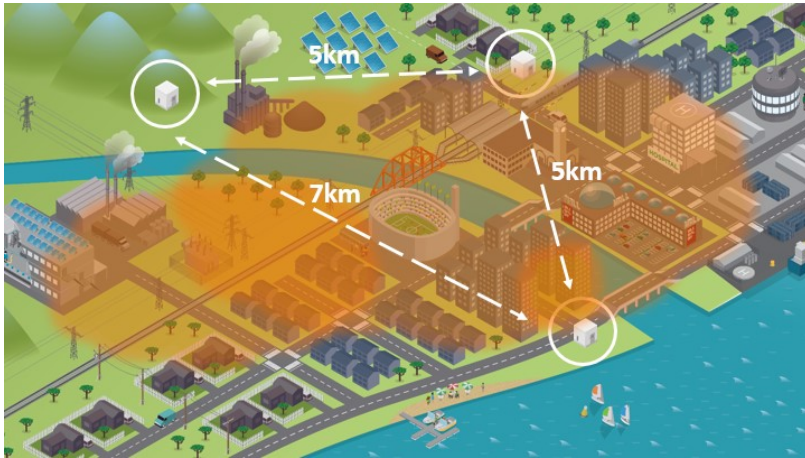
- Measures all key urban pollutants
- Verified performance



Air quality + weather

Supplementary air quality networks

Conventional network



- Air quality measurements typically made with fixed ground-based monitoring stations, which cost several 100 k€
- These stations can only represent a very local area

Supplementary dense network



- The AQT410/420 concept enables dense but cost efficient measurement networks
- Improving air quality monitoring improves also air quality modelling and forecasting

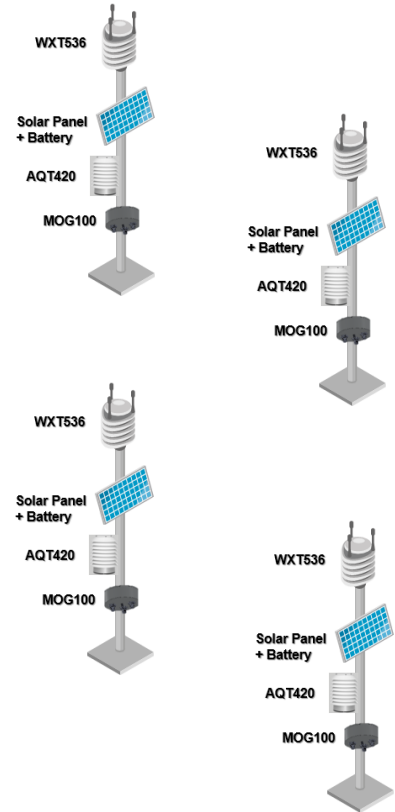
Weather + air quality



- Weather effects the air quality and air quality affects the weather.
- AQT transmitters can be connected with WXT to get a more complete picture
- This improves air quality forecasting

Air Quality total solution

NETWORK OF AIR QUALITY AND WEATHER SENSORS



VAISALA NETWORK MANAGER NM10



- Data acquisition
- Network operation and maintenance management

AIR QUALITY MODELLING SYSTEM



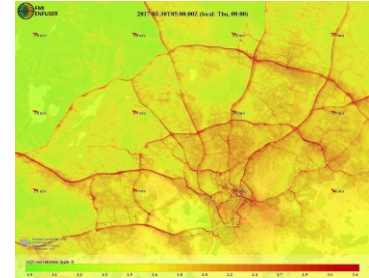
DATABASE

Air quality model and forecast analysis

APPLICATION SERVER



Open access, standard API



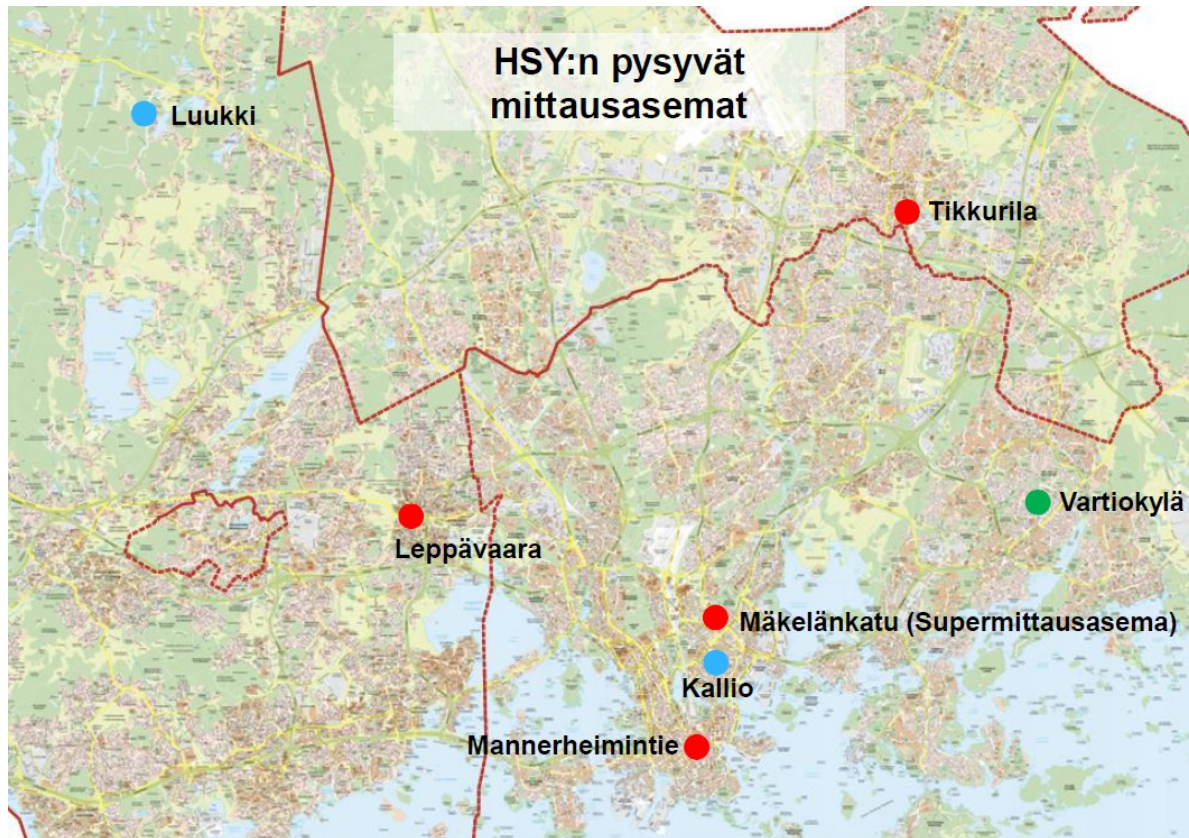
Dissemination for air quality modelling and forecast web interfaces



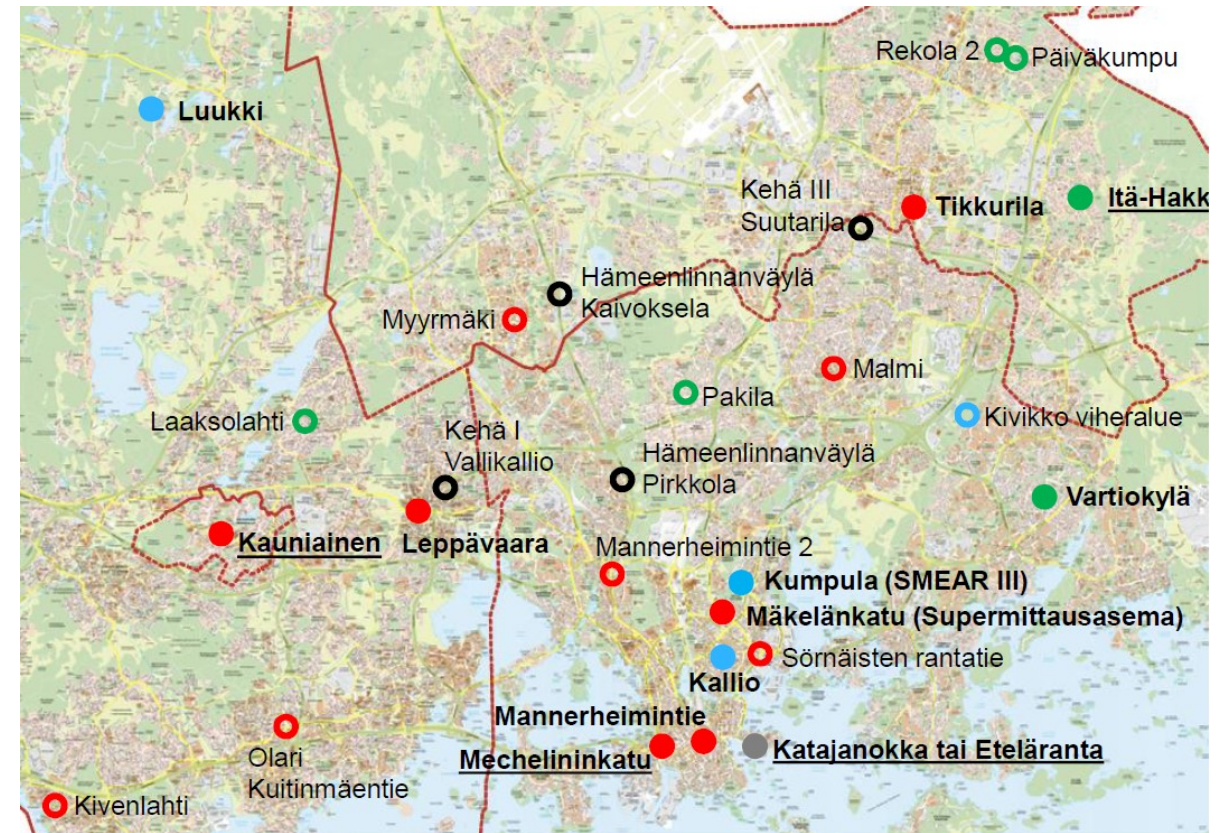
Dissemination for citizen services

Helsinki Metropolitan Air Quality testbed

Before



After



Preliminary planning
courtesy Jarkko Niemi Helsinki Region Environmental Services Authority