ECN
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Innovative Monitoring Network

Ambient Urban Air Quality

ECN-F--14-031

October 2014

www.ecn.nl

In the Innovative Monitoring Network, the ECN AirBox is deployed to monitor urban air quality in a dense network. The AirBoxes submit measurement data on a ten-minute basis, and cover particulate matter (PM1-PM2,5-PM10), ultrafines, and NO2. These data can be accessed in several ways, e.g. via a website or via Excel downloads for subsequent data analysis.

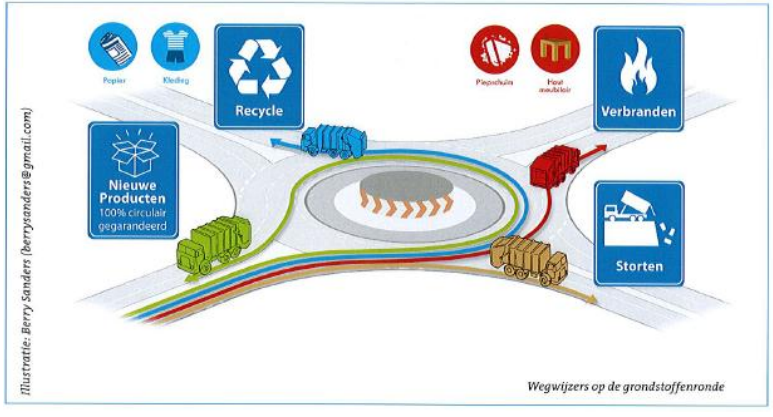
ECN Environment

Healthy Environment

Monitoring, modelling, advice

- Particulate Matter
- Reactive Nitrogen
- VOCs, SOx, BTX

Circular Economy



Testing, modelling, advice

- Environmental risk assessment
- Process and product development

ECN AirBox

ECN AirBox

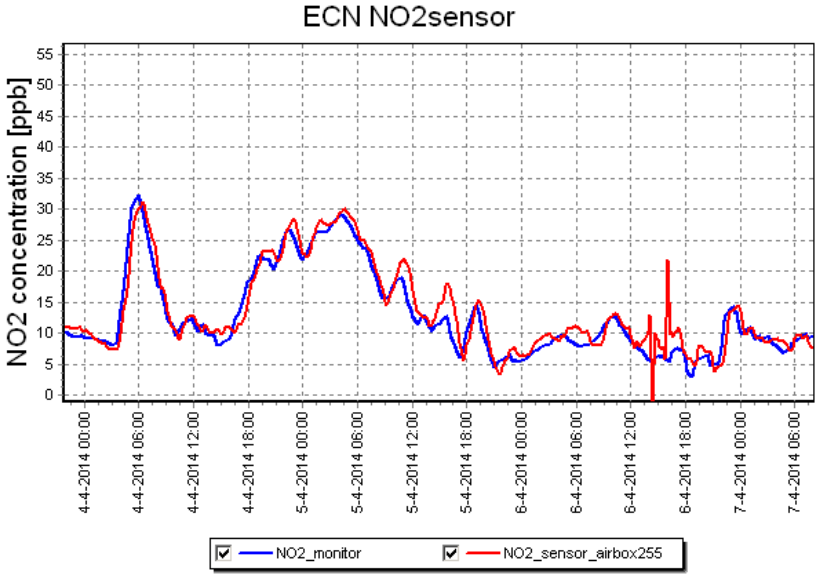
Functionality

- Particulate matter (PM_1-$PM_{2,5}$-PM_{10})
- NO_2
- Ozone (ongoing development)
- Temperature, relative humidity
- GPRS
- GPS

- Universal sensor platform
- Can be extended with other sensors
- Webinterface
- Modeling

Development NO_2

Comparison NO_2-monitor



Status

Completed

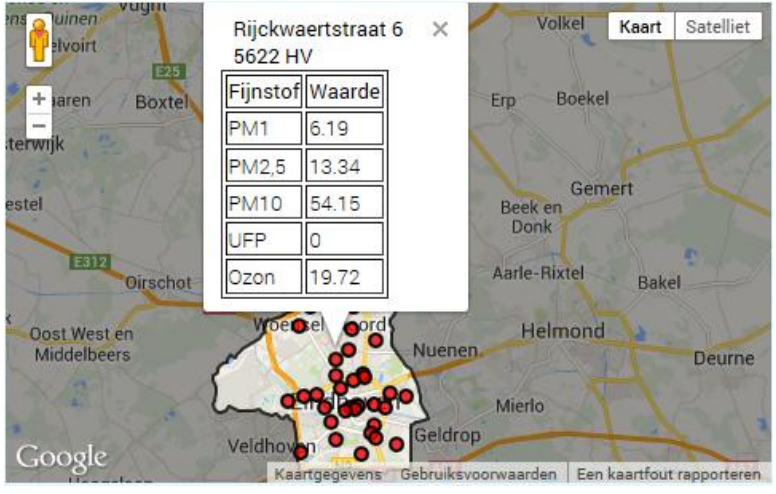
- Prototype construction
- Lab testing
- Integration in AirBox
- Ambient air testing

To do

- Construction additional sensors
- Integration in Eindhoven network

Ambient Air Quality Monitoring Network Eindhoven

Real-time monitoring



www.aireas.com

AiREAS / Air Quality Monitoring Network

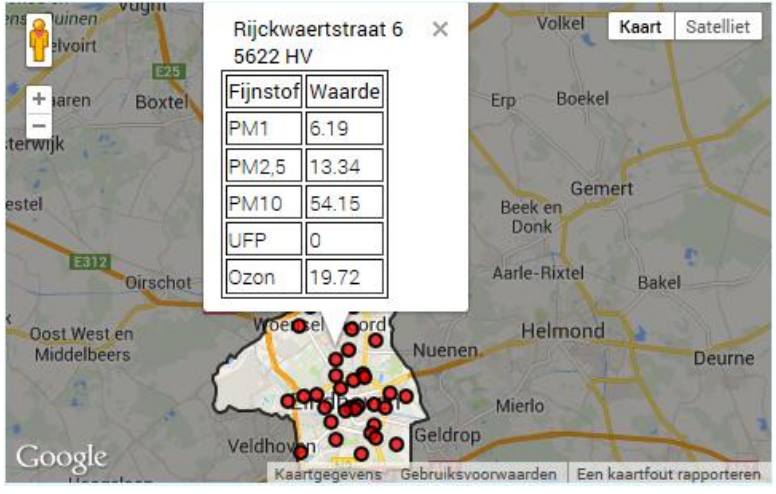
- PM_1-$PM_{2,5}$-PM_{10} (30 locations)
- Ultrafines (6 locations)

AiREAS

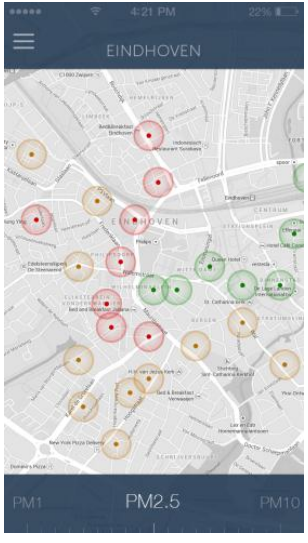
Universiteit Utrecht
Institute for Risk Assessment Sciences
ECN
Provincie Noord-Brabant
EINDHOVEN
PHILIPS
Imtech
UNIVERSITEIT TWENTE.
ITC

Data

Website (aireas.com)



Mobile application

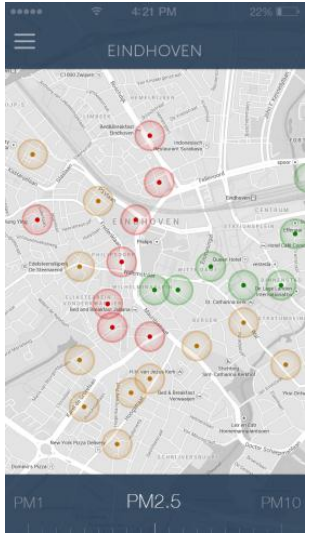


Data feeds / interfaces

- Data feed for scientific research (Excel download)
- Application Programming Interface (API; in development)

Use cases

- Inform civilians
- Enable local initiatives
- Urban development
- Policy monitoring
- Traffic management
- Monitoring vulnerable groups



Want to know more?

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