



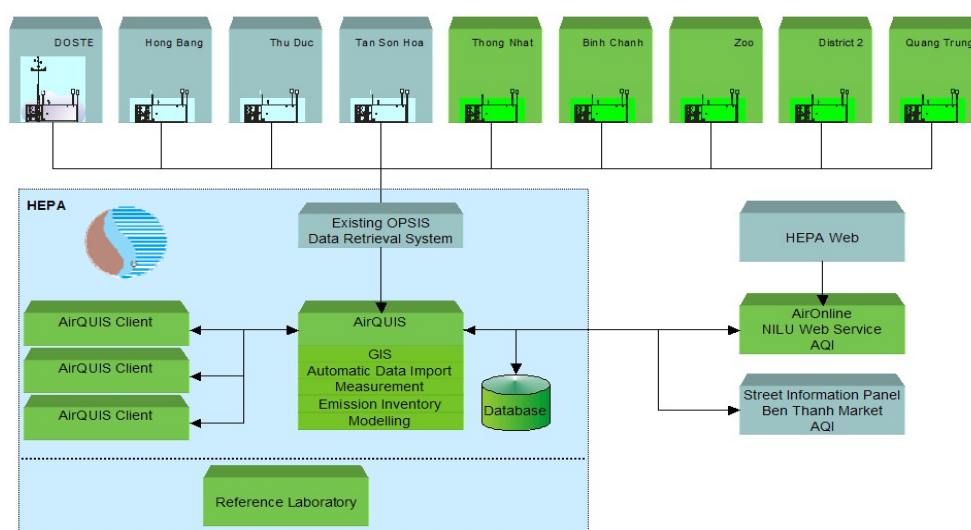
Department of Natural
 Resources and
 Environment (DONRE)
 Ho Chi Minh City



NORAD
 DIREKTORAT FOR
 UTVIKLINGSSAMARBEID
 NORWEGIAN AGENCY FOR
 DEVELOPMENT COOPERATION

Ho Chi Minh City Environmental Improvement Project Air Quality Monitoring Component

AirQUIS IT-solution in Ho Chi Minh City



Norwegian Institute for Air Research



Ho Chi Minh City
 Environmental Improvement Project
 Air Quality Monitoring Component

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Introduction

This report is based on a presentation prepared for the Seminar: “HCMC Air Quality Monitoring and Management Programme”. This was a final seminar held at the end of the Ho Chi Minh City Improvement Project, Air Quality, Monitoring Component, Second part: Reference laboratory and Training. The project has been supported by Norwegian Agency for Development Cooperation (NORAD). The seminar was arranged by DONRE in Ho Chi Minh City (HCMC) on 23 November 2005.

The seminar presented a summary of the air quality monitoring and management programme, which has been developed, based on DANIDA and NORAD funds in Ho Chi Minh City.

Presentation

This presentation consists of 2 sessions. These are Air Quality Management System (AirQUIS) and Using AirQUIS for data dissemination and information to the public.

Air Quality Management System (AirQUIS)

- AirQUIS as Air Quality Management Software
- AirQUIS Software Platform
- AirQUIS Technical Concept in HCMC
- AirQUIS Modules

The integrated Air Quality Management (AQM) platform, AirQUIS, includes all elements needed to undertake assessment and planning of air quality. AirQUIS provides the basis for air quality management through an integrated tool for monitoring and emission inventorying, air quality modelling and assessment, enabling forecasting of future air quality and development of cost-effective abatement strategies.

All modules in AirQUIS are accessed by a user-friendly interface together with an advanced and dynamic Geographical Information System (GIS) platform.

A basis for the planning process is the dispersion models. Collection of emission data for the establishment of an emission inventory is an essential starting point. This work is presently being undertaken by HEPA in HCMC.

Based on defined abatement options and scenarios, cost-benefit analyses can be used to evaluate the best possible options to reduce the air pollution load seen from an economic point of view. The results of such analyses may again lead to the development of action plans.

The AirQUIS platform established at HEPA represents a basis for the An Air Quality Management and Planning System (AQMS). The system can be applied to develop action plans for air quality improvement in a cost-efficient manner.

Using AirQUIS for data dissemination and information to the public

- Different methods for displaying air quality data to the public in HCMC
- Success factors for implemented IT-solution and services

The daily values of the Air Quality Index (AQI), which is being generated automatically by AirQUIS, are being transferred every day to the street panel information board near Binh Thanh marked in the city centre of HCMC.

NILU also supported HEPA in establishing an Internet presentation of air quality data online. Establishing of this web site was not a part of this project. However, HEPA asked assistance from NILU and the Air Quality portal is now available at www.hepa.gov.vn. For more information about NILU as Air Quality Service Provider, please see www.nilu.no.

References

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Presentation foils – Air Quality Management System

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Air Quality Management System

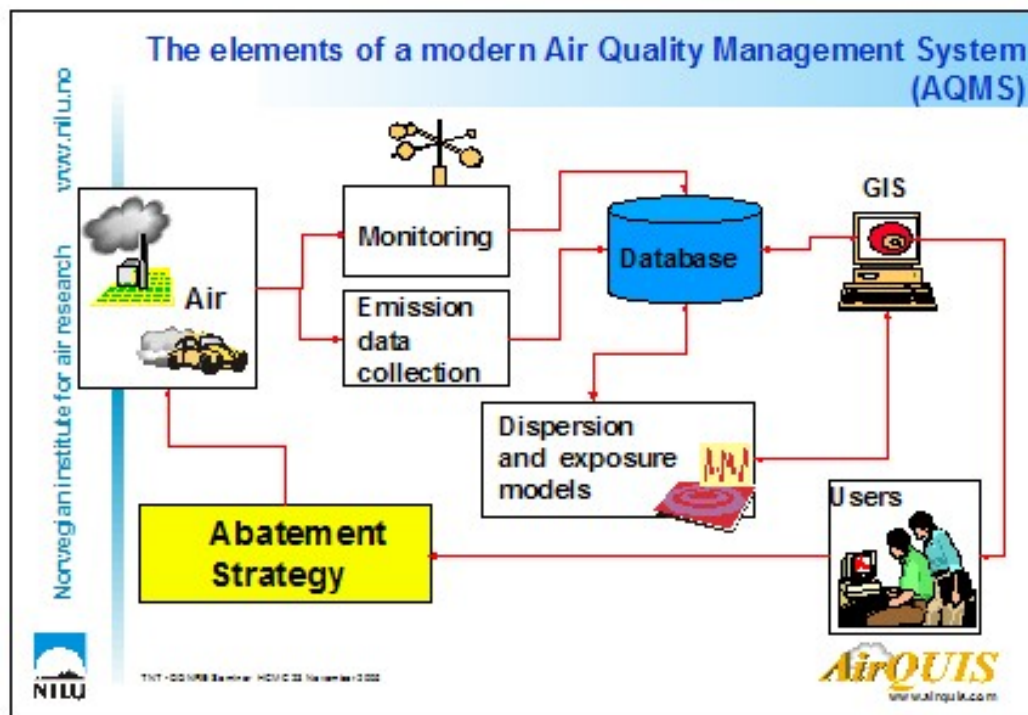
AirQUIS

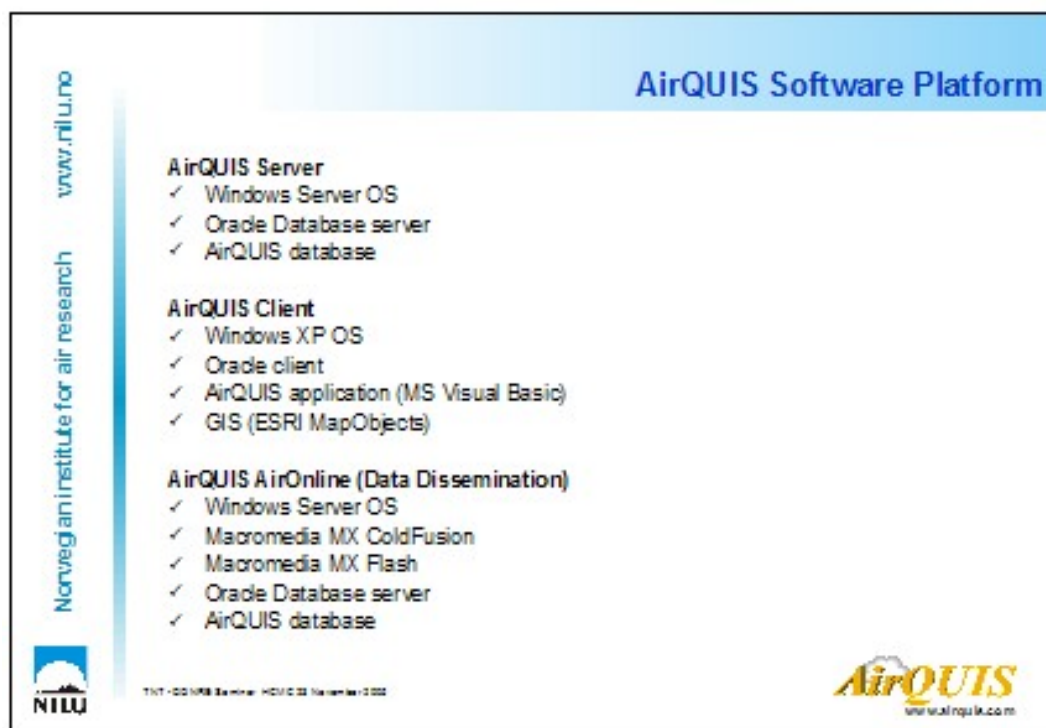
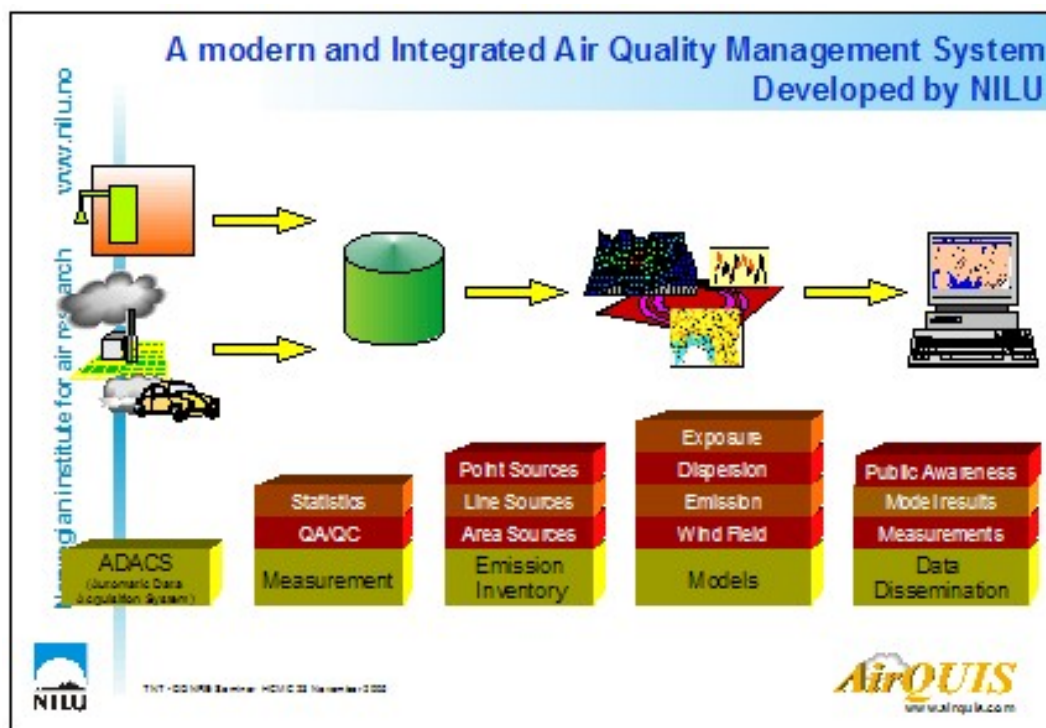
Presented by
Mr. Nguyen Thanh The
Norwegian Institute for Air Research (NILU)

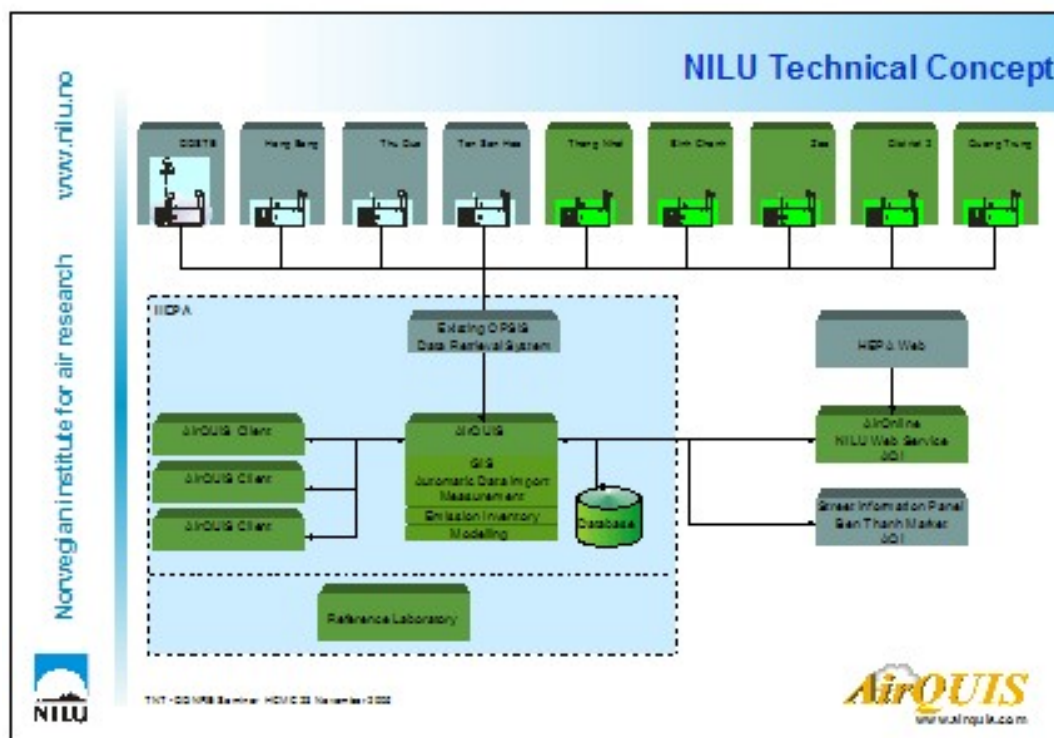
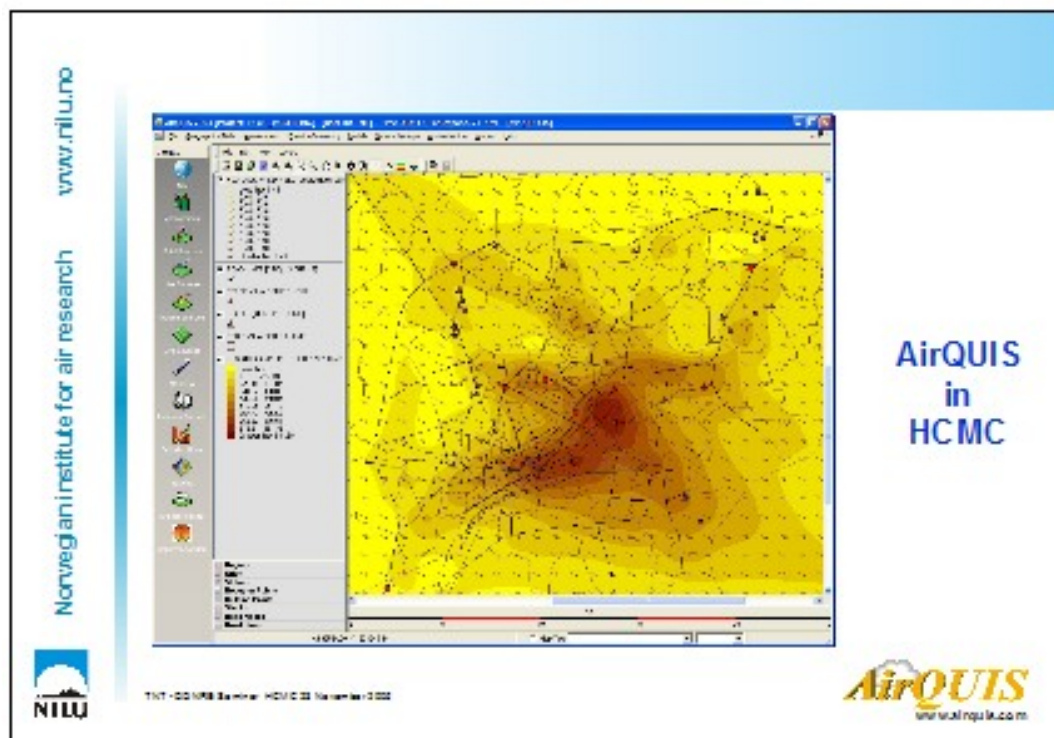
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AirQUIS
www.airquis.no

NILU

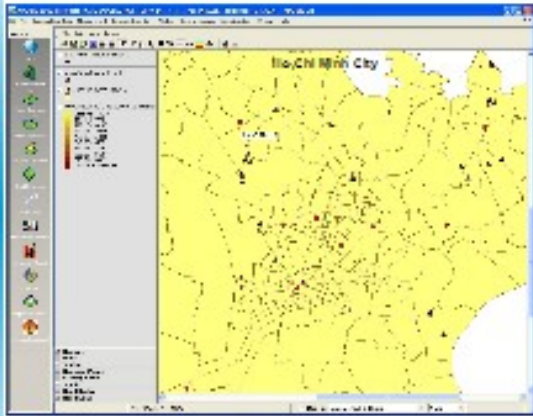







www.ntnu.no
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AirQUIS - GIS




- ✓ Geographical Information System (GIS) – Dynamic
- ✓ Import of GIS data by Excel Templates




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www.airquis.no

www.ntnu.no
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Data Retrieval



- ✓ OPSIS Data logger and Data Retrieval System by modem – Daily or when needed
- ✓ AirQUIS Automatic Data Import with Basic Quality Control Flag or Manual Import of measurement data by Excel Templates




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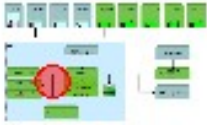
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AirQUIS Measurement




- ✓ Automatic calculation of Air Quality Index (AQI)
- ✓ Final Quality Control of data
- ✓ Statistics
- ✓ Reports



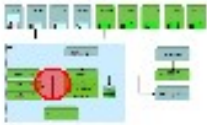
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AirQUIS Emission Inventory



Establishment of Emission inventory

- ✓ Emission data from Point, Line and Area Sources
- ✓ Emission Factors


by Excel Templates



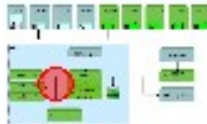
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AirQUIS Modelling




Perform Dispersion and Exposure Scenario Calculations based on

- ✓ Meteorological Data
- ✓ Measurement Data
- ✓ Emission Data
- ✓ Population Distribution




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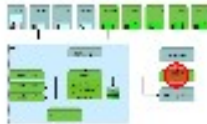


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AirQUIS Data Dissemination - AirOnline




Presentation of Air Quality Data using Internet Platform





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TNT - 00 NRK Berlingske - HDV C 22. November 2002




www.nilu.no/airquis

Presentation foils – Using AirQUIS for Data Dissemination


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Using AirQUIS for Data Dissemination


Presented by
Mr. Nguyen Thanh The
Norwegian Institute for Air Research (NILU)




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Street Information Panel



Daily AQI
generated automatically on
Ben Thanh Market
Street Information Panel



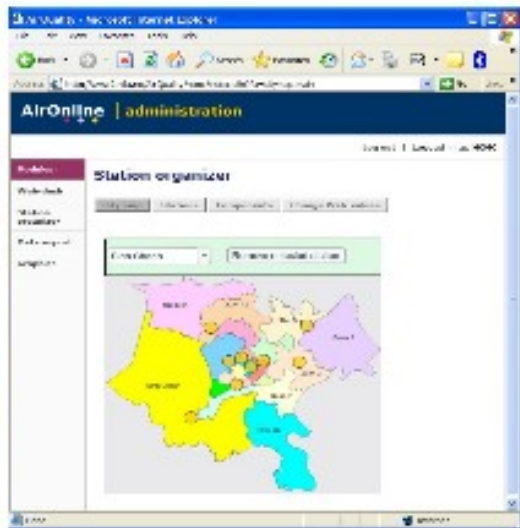
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AirOnline (Light Version)
NILU Web Service Provider

Norwegian institute for air research www.nilu.no

Dynamic Content Management
System for Dissemination of
Air Quality Information
on Internet

(Measurement stations,
Cities and Country)



AirQUIS
www.airquis.no

HEPA Web Portal

www.hepa.gov.vn





AirQUIS
www.airquis.no

AirOnline – Air Quality Index (AQI)


www.nilu.no

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- ✓ Automatic calculation of AQI from AirQUIS
- ✓ FTP of AQI from HEPA to NILU
- ✓ AQI available on Web





www.airquis.no

Information about Measurement Station


www.nilu.no

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- ✓ Measurement stations on "Map"
- ✓ Detail Information about the HEPA measurement stations



www.airquis.no


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Sustainability of the Technological Solution

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Success Factors




State-of-the-art Products and Services

High qualified research- and IT-services

30 years of unique competence from NILU

Sustainable Solution

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AirQUIS Helpdesk

- ✓ Assistance from NILU
- ✓ Telephone: +47 63 89 80 28
- ✓ E-mail: airquis@nilu.no


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www.airquis.no

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AirQUIS Maintenance Agreement

New versions of AirQUIS free of charge

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www.airquis.no

AirQUIS User Support Agreement

User support of AirQUIS free of charge

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NTL

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