

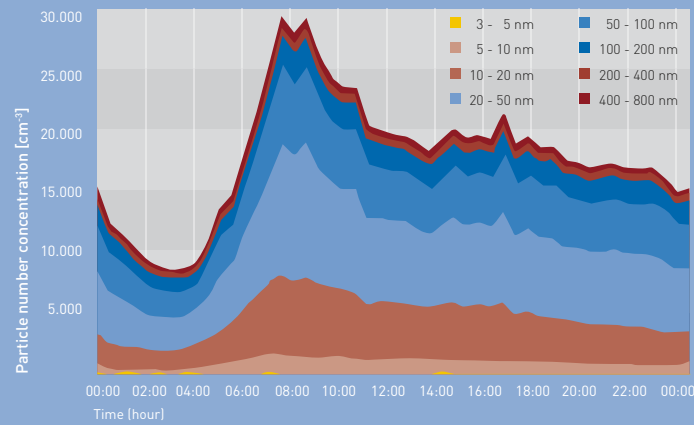
WHY ULTRAFINE PARTICLES?

Health experts say that high concentrations of ultrafine particles in ambient air cause heart attacks and premature deaths. These particles are so small that they can be inhaled and travel via the blood stream to the inner organs.

These ultrafine particles are 1000 times smaller than the diameter of a human hair. They have a diameter of less than 100 nanometers.

Ultrafine particles are measured in a few measuring stations of routine measuring networks in Europe today.

There is evidence that the number concentration of ultrafine particles varies spatially, ranging by an order of magnitude from rural to urban (near heavy traffic) levels.



LfUG measurements over one year of an average weekday at a near traffic measuring station in Dresden.



Display of measuring device for ultrafine particles.

WHY IN EUROPE?

The European Commission adopted the Thematic Strategy on Air Pollution (COM(2005) 446) on 21 September 2005 as an outcome of the CAFE (Clean Air for Europe) programme. This strategy asks member states to carry out more research on emission sources, atmospheric chemistry and pollutant dispersion and on the effects of air pollution on health and the environment including long term European epidemiological studies.

To learn more about the effects on the environment and on human health, comparable data from all over Europe are necessary.



OBJECTIVES

- measuring device for ultrafine particles
 - suitable for residential areas in Europe
 - affordable
 - easy to use
 - stable delivery of reliable data
 - reduced data amount per time
- documentation of measuring activities over several years
- publications for general public and scientific community
- contact with interested groups, like CAFE and VDI

TASKS

MANAGEMENT

- Project Coordination
- Steering Committee

DESIGN

IMPLEMENTATION

MEASUREMENT

EVALUATION

DISSEMINATION

- Press releases
- Website
- Contact to CAFE, VDI + other interested parties
- Final conference



Measuring station at Dresden: Schlesischer Platz, a place with high traffic load.



Invisible to the eye: Ultrafine particles coming from the tailpipe

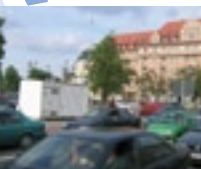
MEASURING SITES

The new device will measure particle size distributions at four places in three countries: Sweden (Stockholm), Germany (Dresden and Augsburg) and the Czech Republic (Prague). Three places are near busy roads, whereas the place in Augsburg is an urban background site.

- Stockholm: Hornsgatan
- Dresden: Schlesischer Platz
- Prague: Strahovský tunnel, Smíchov
- Augsburg: Friedberger Straße



Stockholm



Dresden



Prague

Augsburg



PARTNER

The Project will bring together 6 partners from 3 countries. They are air quality experts and researchers from routine measuring networks, from small and large sized enterprises.



Saxon State Agency for Environment and Geology, (LfUG)



Czech Hydrometeorological Institute, Praha, (CHMI)



Leibniz Institute for Tropospheric research, Leipzig, (IFT)



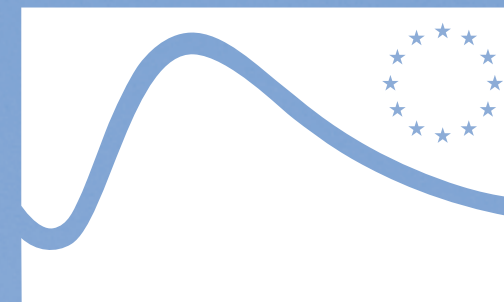
Department of Applied Environmental Science, Atmospheric Science unit, Stockholm University, (ITM)



GSF - National Research Center for Environment and Health, Neuherberg



TSI GmbH, Aachen



UFIPOLNET

Ultrafine Particle Size Distributions in Air **P**ollution Monitoring **N**etworks

Project duration 2004 - 2007

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