

# Cleantech Invention

## Crowd-assisted

## Air Quality Assessments for Cities

Air pollution in cities is a societal problem affecting quality of life and causing premature death. In Europe air quality is improving, in megacities such as Beijing and New Delhi pollution levels are much higher and increasing. Measuring pollution levels where people live and at high spatial and temporal resolution – is crucial to understand the effectiveness of abatement strategies. Involving the general public in collecting data and providing them with feedback and knowledge will contribute to the willingness and therefore effectiveness of the abatement strategies.

### Data collection via smartphones

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Innovative techniques offered by smartphones can be used to do both; people can use their smartphones to share measurements of particulate matter (fine dust), e.g. with an advanced optical add-on (iSPEX) or a coupled nitrogen dioxide sensor, and receive more accurate and higher resolution air quality information in return. The iSPEX concept has used successfully on modest scale in Europe. We propose to apply the technique to polluted megacities.

### Climate impact

Reduction of air pollution is of primary importance to improve quality of life and health of city inhabitants. However, air pollutants also influence climate in the city and on the global scale, especially anthropogenic emissions of particulate matter (aerosols) have a major and complex impact on global climate..

### Target market

Governmental) environmental agencies of city regions worldwide that are willing to invest in new sensing techniques in addition to existing (traditional) pollution monitoring networks with limited capabilities.

Once we can demonstrate the added value of a sensor network (combined with an air quality model) for one or two cities (e.g. Rotterdam in the Netherlands, and New Delhi in India), we can expect growing demand from other cities.

### Who is Air Quality Control looking for?

- Entrepreneurs with technical expertise about sensor development (optics/electronics/software) and a strong focus on simplification and cost reduction.
- Entrepreneurs with expertise to sell new technology to governmental agencies.

### What does Air Quality Control has to offer?

- Concrete concepts for using modern smartphone technology to collect much needed air quality data.
- Scientific expertise to interpret data
- Scientific expertise to provide embedding in air quality model
- Network of potential stakeholders / potential customers

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