OPTICAL MEASUREMENTS IN CITIZEN PROJECTS

Smartphones with attachable mini-spectrometers make it possible to map current environmental data of entire countries with the help of thousands of citizens.
FINE DUST PARTICLES get into the air from different sources.

CENTRAL DATA EVALUATION
evaluation concerning the amount, particle size, and composition.

MAPPED DATA THAT IS ACCURATE IN TIME AND LOCATION
example: the Netherlands

POLUTION
very strong
very low

FINE DUST PARTICLES

Smartphones with attachable mini-spectrometers make it possible to map current environmental data of entire countries with the help of thousands of citizens.
FOREST FIRE SURVEILLANCE

Automated optical sensor systems monitor large forest areas day and night for fires.

EXAMPLE
surveillance of the Teltow-Fläming county, near Berlin, Germany

Coverage of an area of 310,000 ha with 10 SYSTEMS on fire watchtowers.

ENVIRONMENT
Automated optical sensor systems monitor large forest areas day and night for fires. The optical sensor system registers smoke development automatically in the visible and infrared spectral range. The camera turns itself in stages on its own axis over 6 minutes. The optical system receives data and images if a fire is detected.

**OPTICAL SENSOR SYSTEM**

- **60° per minute**
- **Coverage of an area with 310,000 ha**

**AREA BEING MONITORED**

**FOREST FIRE ALARM CONTROL CENTER** receives data and images if a fire is detected.

- **92 km**
- **55 km**
- **15 km**

**CAMERA ANGLE OF VISION**

- **optics for night-time operation**
- **optics for day-time operation**
Efficient sorting facilities are used to recover many materials in their raw form from heaps of domestic waste. Together with fast image processing software, multispectral cameras capture within a split second what should be placed in which raw material container.
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