



SIGIS 2

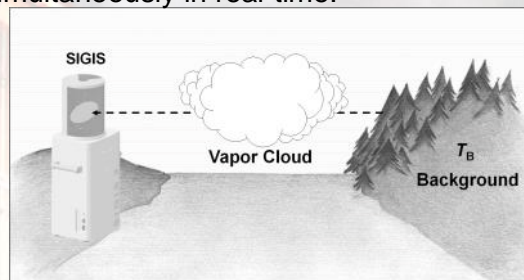
Scanning Infrared Gas Imaging System Remote Monitoring of Hazardous Gases

SIGIS 2 New generation Stand-Off Gas Identification and Imaging
Designed for Public Safety, First Response, and Environment

The **SIGIS 2** (Scanning Infrared Gas Imaging System) provides

- Imaging of Gas Clouds From Long Distances
- Highest Sensitivity
- Reliable Identification

By overlaying the gas image and the image of a video or infrared camera, the location of a gas cloud is simple. SIGIS 2 allows measurements at daytime and during the night because omnipresent infrared radiation is analysed. The method enables the detection of virtually all relevant hazardous compounds. All entries of the compound library are analysed simultaneously in real-time.



The SIGIS 2 is operated in a passive mode, meaning that no external light sources are required - the use of the instrument is notably easy.

SIGIS 2 has been developed for the German Analytical Task Force. It complies with requirements of first response action and also has proven its capabilities during continuous surveillance of public events.



Monitoring Public Events

During the FIFA World Cup 2006, the UEFA EURO 2008, and various state visits and summits (e.g. Climate Summit 2009), SIGIS 2 systems were deployed for surveillance.

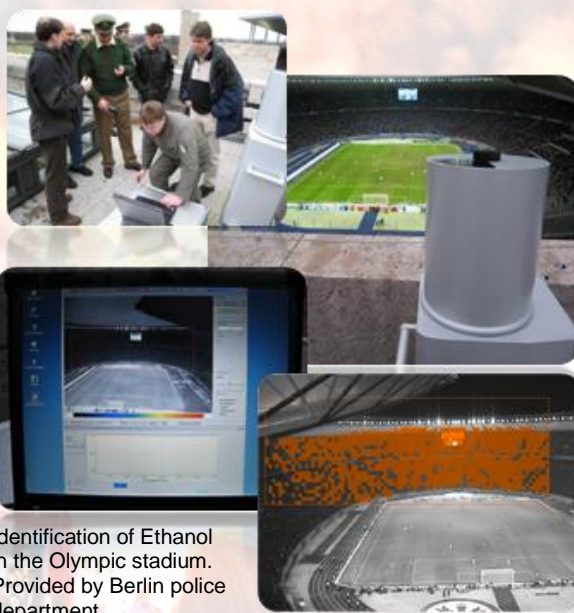
No intentional releases of hazardous gases occurred, but the systems proved their effectiveness by identifying and locating various gases in the air (Ethanol, Ammonia, SF₆, Methanol).

Monitoring Chemical Accidents

Visualize the origin and distribution of hazardous compounds from a safe distance.

Environmental

Remote detection of the release of chemicals from industrial plants.



Identification of Ethanol in the Olympic stadium. Provided by Berlin police department.

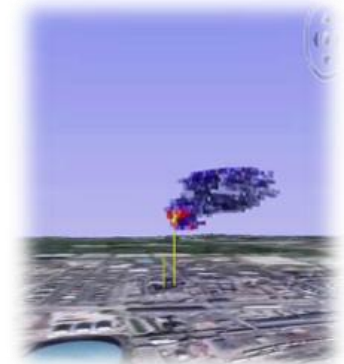
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ANALYTICS

Solutions in Chemical Detection

Technical Data SIGIS2

Stand-off Imaging of Gas Clouds

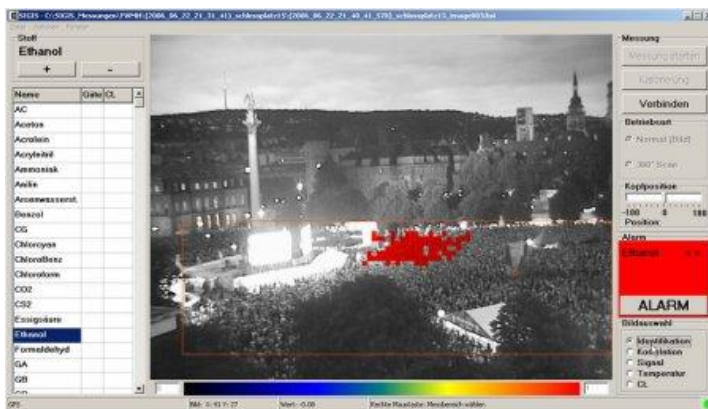
- Real-time identification and imaging
- Highest sensitivity (20 mK NEAT typical)
- Video & IR imaging for day & night operation
- No active light source required
- Telescope for long range detection (10 mrad FOV)
- Localization, identification and quantification
- Compensation of atmospheric compounds and potential interferents
- Large field of surveillance: 360°x 30° monitoring (scanner: up to 360°x 60°)
- User-defined programmable scan & autonomous operation
- Integrated GPS
- Large and expandable real-time library (TIC and CWA)
- Additional expert library
- Automatic calibration
- 3D reconstruction (Tomography) of cloud demonstrated
- Easy to operate:
 - FTIR analysis is integrated in the image of the landscape
 - Environmental parameters are monitored automatically



3D-Reconstruction of cloud using two instruments.



ID of SF₆ at a distance of 2.5 km.



Identification of Ethanol in a public viewing area.
Measurement performed by Mannheim Fire Department.

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Sigma ElectroOptics

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