



# digital air quality monitoring systems

atmospheric  
sensors



**As standards of living and industrial development rise around the world so the pressures on the human environment and on available energy resources inexorably increase.**

**Street pollution (fumes and particulate matter) in major cities must be monitored and controlled in order to reduce the current levels of health damage for which it is responsible.**

**Indoor air quality, too, must be monitored so that healthy conditions can be maintained by heating, ventilation and air-conditioning systems without waste of energy. And for a variety of other hazard-monitoring applications, traditional gas detection techniques need to be invested with enhanced sensitivity and selectivity characteristics to render them more effective.**

**In all cases the need is for reliable, accurate data to monitor and quantify the challenges so that mitigation measures can be directed with precision.**

**Governments and administrations in many parts of the world are turning to the monitoring of street-level air pollution in cities, with wireless transmission of real time analytical data to nominated control centres, in an attempt to keep this health threat in check.**





Atmospheric Sensors (AS) is a young company vigorously exploiting a new, digital, approach to gas sensor management that allows the aggregation of a range of sensing technologies to achieve enhanced reliability, sensitivity and selectivity in potentially hazardous circumstances at the hyperlocal level. Electrochemical gas sensors and a laser particle monitor are included in the system, as are motion detection (3-axis accelerometer and GPS), together with ambient noise, temperature and relative humidity measurements.

Two of the principal product lines address ambient air quality, which is monitored by fixed-site units and by wearable monitors, respectively, each deploying the multi-technology approach, which is the core signature of the Company's products.



The highly-integrated design of the AS520 personal air quality monitor.

# AS510

remote air quality monitor

The AS510 remote air quality monitor offers a rich set of features in fixed installations.



The AS unit for fixed-site monitoring deploys four electrochemical sensors ( $\text{NO}_2$ ,  $\text{NO}$ ,  $\text{CO}$  and  $\text{O}_3$ ), an NDIR sensor for carbon dioxide, a PID sensor for VOCs, a laser particle monitor, relative humidity monitoring and temperature measurement. GPS is fitted to provide location and timestamp information. A microphone is also an option to monitor ambient noise. Data can be stored locally and can be transmitted to a central management site over the cellular network, minimizing infrastructure requirements.



The AS330 metal oxide sensor management system provides precise management of 8 metal oxide sensors.



# AS520

## personal air quality monitor



The AS520 personal air quality monitor and charging/upload basestation.



In many circumstances a wearable air quality monitoring system that also makes use of a complementary range of sensing technologies will be the optimum way to provide a reliable information set: Electrochemical, NDIR, and metal oxide sensors can all be included in the system, as can motion detection (3-axis accelerometer and GPS), together with ambient noise, temperature and relative humidity measurement.

# AS330

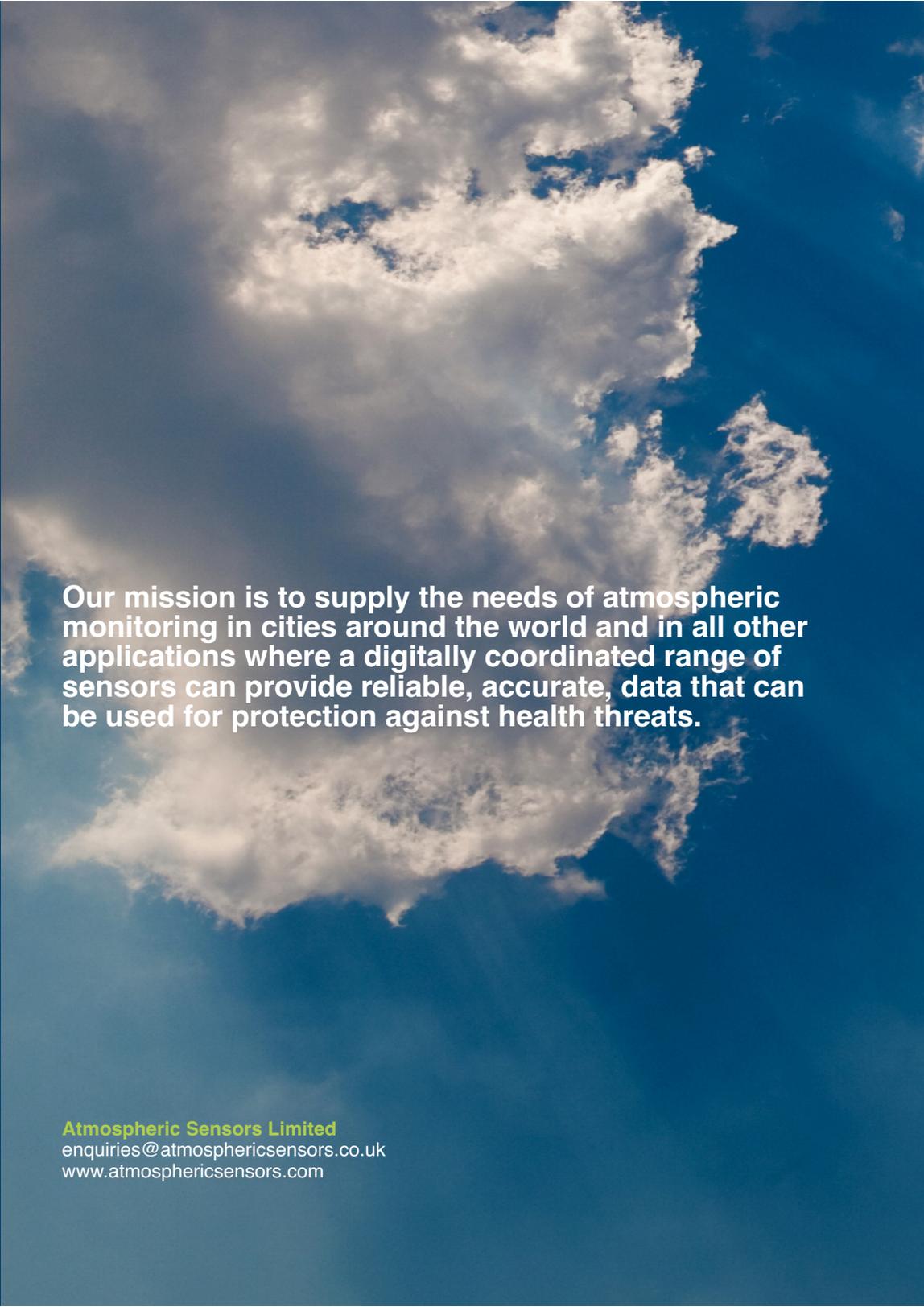
## metal oxide sensor management system



An additional advance in the case of metal oxide sensor technology is the use of AC rather than DC interrogation of the sensing material. This approach provides complementary atmospheric composition information from the real part and the imaginary part of the sensor impedance and introduces a marked enhancement in terms of both sensitivity and selectivity.

AS systems are supported by advanced control and read-out electronics and made available for immediate use without the need for specialist skills.

AS products are manufactured using automated component placement, and vision and flying probe inspection to ensure quality and reliability.



**Our mission is to supply the needs of atmospheric monitoring in cities around the world and in all other applications where a digitally coordinated range of sensors can provide reliable, accurate, data that can be used for protection against health threats.**

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