Integrated Noise Monitoring

CUSTOM SOLUTIONS FOR ENVIRONMENTAL MONITORING

acoem
CREATING ENVIRONMENTS OF POSSIBILITY

One system for every application

Noise monitoring is an important component of any total environmental monitoring solution.

Noise monitoring is necessary for regulatory compliance and provides accurate measurement of noise levels that can impact or adversely affect the health and wellbeing of a workforce or an entire community.

Monitoring can also mitigate and significantly reduce the financial and non-financial risk associated with non-compliance to relevant standards and regulations.
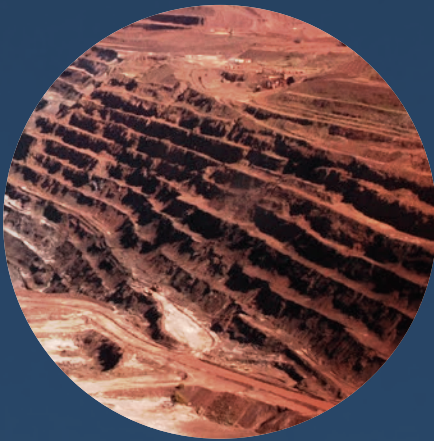
Mining operations

Urban environment

Wind farm

Construction site

As part of a total environmental monitoring solution, noise monitoring must distinguish not only the level but also the origin of the noise.

For regulatory purposes, knowing the origin is particularly important, so that noises from external sources (for example, wildlife) cannot be incorrectly attributed to a particular industrial or commercial activity.

Depending on your project requirements, Acoem's suite of smart noise and sound vibration analysers can be fully integrated into a new or existing Acoem environmental monitoring station to create a cohesive multiparameter environmental monitoring system.

Add noise and/or vibration monitoring capability to single or multiple Acoem monitoring systems that include:

- Dust monitors
- Particulate monitors
- Gas monitors
- Continuous air quality monitors
- Water monitors
- Weather stations.

Noise & vibration monitoring
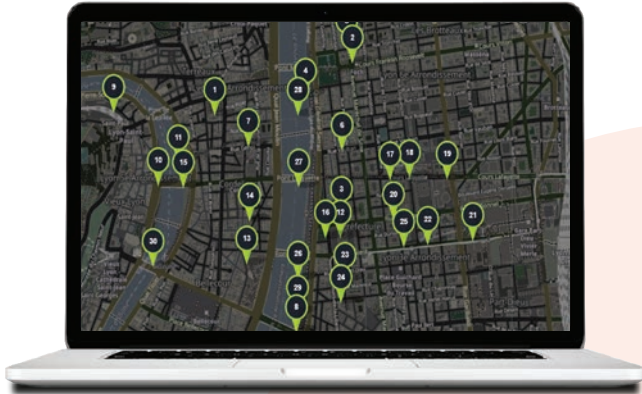
Cadence™

NOISE MONITORING & CONTROLLING MANAGEMENT SYSTEM

A responsive, ready-to-use monitoring platform that seamlessly integrates with all Acoem noise measuring devices.

The Cadence™ IoT platform is available 24 x 7 x 365 enabling access to data on an intuitive interface via any connected device.

Fusion™

4G SMART SOUND & VIBRATION ANALYSER

With IEC 61672 certification and built-in 4G modem, GPS and WiFi, the all-weather, hyperconnected Fusion™ sound level meter guarantees accuracy and high-speed connectivity.

Add a vibration sensor to record/store 3-axis vibrations in parallel, or connect a camera for real-time audio and video alongside pushed data.

ACT-400

MICROPHONE & MONITORING STATION

The Acoustic Connect Terminal (ACT-400) combines the precision of a Class 1 microphone with the maximum protection of an outdoor kit and full connectivity via the Cadence™ noise management system as well as other open-source platforms.

Orion™

SMART VIBRATION MONITORING TERMINAL

An all-in-one vibration monitoring system with integrated sensor, modem, Wi-Fi and GPS.

It is robust, waterproof, easy to configure and use, and features seven measurement channels and smart integration of vibration standards.

Cube™

4G SMART NOISE MONITORING TERMINAL

Combining functionality with high-speed connectivity, the versatile Cube™ can be mounted or carried in a portable weatherproof case.

It features inbuilt 4G modem, externally accessible WiFi/GSM/GPS antennae and IEC 61672 certification, guaranteeing data accuracy. Connect to a camera for real-time audio and video event detection.

Customised solutions tailor-made for industry

Acoem Australasia (Ecotech Pty Ltd) has over 45 years' experience in the design, construction, installation, commissioning and maintenance of integrated environmental monitoring systems across Australia and around the world.

Our solutions are developed to withstand the toughest environments, from tropical rainforests in Indonesia, to the frozen tundra of Antarctica, urban centres like New Delhi to remote mining sites in Western Australia.

With the addition of Acoem's world-class noise monitoring instruments, our custom-designed systems are now even better equipped to meet the needs of Acoem customers worldwide.

ACCURATE MONITORING IN ALL CONDITIONS

Acoem Noise Systems can be housed in a variety of different shelter types and sizes depending on location and project parameters.

All-weather, temperature-controlled robust Acoem shelters withstand the extreme weather conditions when installed in harsh urban or remote locations.

External microphones are fitted on weather masts and are designed to withstand the elements. With the Cube™, external antennas allow communication in remote locations.

The ability to mount the monitoring equipment in a range of enclosures - from existing monitoring shelters to standalone fibreglass, stainless steel or plastic enclosures - allows measurements in a range or conditions.

APPLICATIONS

- Aviation
- Community, urban and city monitoring
- Construction
- Mining
- Monitoring dictated by legislation and standards
- Research and environmental studies
- Transportation systems (road & rail...)
- Workforce safety

Acoem Integrated Noise Monitoring System, retrofitted into an existing cyclone-rated, solar-powered dust monitoring station, designed, installed and maintained by Acoem Australasia. Pilbara, Western Australia.

Image credit: Graeme Churchard, Wikipedia.

Problem solved

Acoem Integrated Noise System
Newman, Western Australia. 1200 km north of Perth

Acoem Australasia designed, installed and maintains a network of hundreds of dust monitoring stations in and around Australia's remote Pilbara region for most major mining companies. The network of monitoring stations ensures dust levels from mining and blasting activities meet stringent environmental regulations.

In 2017, a mining company wanted to extend its monitoring parameters beyond dust to also include noise, so it commissioned Acoem to design a solution.

Acoem retrofitted an Acoem Cube™ smart noise monitoring terminal into an existing dust monitoring station located in Newman, creating a fully-integrated environmental noise monitoring system.

Critical to the success of the project was the need for the noise monitoring system to accurately record, log, then push all noise data to the mining company's proprietary online data capture system.

Complete real-time data management

Accurate, reliable data is an essential factor in the successful operation and management of monitoring systems. An entire network of monitoring stations can be controlled centrally for data analysis, comparison and reporting.

Using Acoem software, an Acoem Integrated Noise Monitoring System manages the entire data interface.

Communication platforms include integrated WiFi and 3G with ability for third party 4G, satellite and radio module connectivity.

Real-time and historical data can be presented through secure on-screen displays, SMS messaging or emails. Data can be made available to the public via custom-designed web pages.

Acoem can also push data out to external FTP networks. This allows captured data to be directly available on in-house systems managed and operated by end-use customers.

BENEFITS OF AN ACOEM INTEGRATED NOISE MONITORING SYSTEM

- Cost-effective solution for one cohesive unit with multiple applications
- Continuous long-term monitoring
- Fully-integrated advanced instrumentation
- Data reporting
- Remote access diagnostics
- Solar-powered
- Expert maintenance and technical support
- Dial-in and listen to real-time audio on exceedances
- Optional weather sensors integrated in the one system.

Installation, maintenance & technical support

Our highly specialised team of Acoem Australasia field technicians and engineers uses a unique problem-solving perspective and decades of combined environmental monitoring know-how to install integrated systems, ensure they operate successfully and meet all regulatory standards, including initial calibration and final checks.

Once an Acoem Integrated Noise Monitoring System is installed and operational, scheduled on-going maintenance and calibration of all monitoring instruments is critical to ensure maximum performance, reliability, accuracy and regulatory compliance.

Accreditation is a valuable risk-management tool. Acoem Australasia is NATA-accredited for continuous monitoring of ambient air, meteorological monitoring, blast monitoring, calibration services, as well as industrial emissions (CEMS) monitoring.

Our field staff are equipped with Acoem's own industry-leading Asset Management System (AMS) to manage site assets, test equipment and perform associated maintenance tasks in accordance with Australian Standards and NATA requirements.

All maintenance and calibration activities are logged and tracked in AMS, facilitating collaboration between client and Acoem in performing calibration, operation and maintenance in accordance with NATA requirements. Our AMS system provides that additional level of traceability.

Acoem Australasia's NATA-accredited facilities and services comply with the requirements of ISO/IEC 17025 and include testing laboratories, calibration laboratory and blast monitoring services.

Search for "Acoem" at **www.nata.com.au/accredited-facility** to see the complete list of Acoem Australasia NATA accreditations.

ACOEM 01DB CALIBRATION, SERVICE & REPAIR CENTRE

The first and only NATA-accredited Acoem (01dB) noise and vibration Calibration, Service & Repair (CSR) centre outside of France is located at the Acoem Australasia headquarters in Melbourne, Australia.

The Acoem CSR centre was established to meet the growing needs of Acoem customers across Australasia. The centre received its full NATA-certification as an ISO 17025 compliant laboratory in 2019.

The convenient Melbourne location significantly reduces lead times for the calibration, service and repair of Acoem instruments.

About Acoem

At Acoem, we **create environments of possibility** — helping organisations find the right balance between progress and preservation — safeguarding businesses and assets, and maximising opportunities while conserving the planet's resources. We deliver unrivalled, interoperable AI-powered sensors and ecosystems that empower our customers to make enlightened decisions based on accurate information.

Together with 220 distributors, our 850+ employees work across 28 offices, 6 manufacturing facilities and 5 R&D centres in 9 countries, to provide trusted, holistic data solutions for customers worldwide.

Acoem links possibilities with protection.

For more information visit acoem.com

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