

# Integrated Noise Monitoring Solutions

SOLUTION SNAPSHOT



**acoem**  
CREATING ENVIRONMENTS OF POSSIBILITY



# Integrated noise monitoring for all applications



Airport



Vehicular



Construction Site



Mining



Windmill Farm



Industrial



Community Area



Smart & Safe City





## Noise data Made Simple, for sound decisions

As urbanisation continues to advance at an unprecedented pace, noise pollution is growing challenge in our daily lives. At Acoem, we understand the importance of managing excessive noise, and are committed to providing the most efficient and practical noise monitoring solutions for all applications.

The choice of acoustic professionals around the world, our instruments are used individually or in large, connected networks to protect businesses, ensure regulatory compliance and safeguard populations from detrimental and unhealthy levels of noise and vibration.

Our advanced technology platform and user-friendly, connected ecosystem are designed to give you the quickest and most accurate access to vital measurement data, empowering you to make informed decisions that will protect quality of life for potentially affected communities. This includes real-time information published on public facing proprietary websites and on-site digital signage as efficient and transparent ways to engage with stakeholders and develop trust.

# Noise & vibration equipment



## Fusion™

### SMART SOUND & VIBRATION ANALYSER

With IEC 61672 certification and built-in 4G modem, GPS and WiFi, the all-weather, hyper-connected 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.

ACT-400 makes the Noise monitoring easier than ever. Plug it and leave it!



## Orion™

### SMART VIBRATION MONITORING TERMINAL

An all-in-one vibration monitoring system with integrated sensor, modem, WiFi and GPS,

Orion™ is robust, waterproof, easy to configure and use, and features 7 measurement channels and smart integration of vibration standards.



## Cube™

### SMART NOISE MONITORING TERMINAL

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

Made for long term monitoring, it features built-in 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.





## Cadence™

**MONITORING PLATFORM TO MANAGE, STORE AND COMMUNICATE.**

Cadence™ is a 100% responsive, ready-to-use monitoring platform that seamlessly integrates with all Acoem noise measuring devices. It represents the perfect project management tool and provides real-time results with heatmaps, overall levels and multiple indicators.

### **Cadence™ was created to:**

- Control over your soundscape & a better understanding of it
- The ability to easily interact with your devices & make more efficient decisions
- Greater choice & flexibility for establishing a sustainable noise monitoring system
- Freedom from relying on extensive hardware or infrastructure – such as secure IT architecture, sensors or servers
- The highest quality data
- Saves time to let you focus on your core business with embedded Artificial Intelligence.



# Ambient noise monitoring solution

At Acoem, we understand that noise monitoring often takes place in challenging real-world conditions, including dusty, dirty, and hard-to-reach locations, as well as in extreme weather conditions. Our industry leading solutions are renowned for its exceptional adaptability, serves as an ideal solution for various outdoor applications and stands out as the most versatile option available.

Our solutions encompasses cutting-edge noise monitoring devices, equipped with flexible mounting options that cater to both fixed and portable setups.

These devices also feature innovative functionalities and offer a user-friendly operation, enabling users to concentrate on their data analysis tasks with ease.

In addition to our range of devices, Acoem has established advanced noise monitoring stations across major cities, which play a pivotal role in providing comprehensive evaluation and analysis for a wide range of noisy environments. Whether the goal is to assess noise pollution in urban areas or monitor industrial noise emissions, our solutions are well-equipped for the task.



Construction Site Monitoring



Industrial Noise



Transportation Noise



Windmill Noise



Recreational Activities Noise



Aircraft Noise



Urban Noise



Mining



# Noise mapping to improve community comfort

## An innovative approach to fighting traffic noise pollution

Acoem's Noise Radar technology puts control of the road soundscape back into the community's hands, raising awareness of the importance of minimising

traffic noise and penalising those who deliberately or inadvertently exceed acceptable noise limits.

Noise Radar provides a multi-parameter solution for road traffic noise emissions by:

- Identifying offenders
- Automating fining capabilities
- Communicating & reporting to communities
- Educating drivers/riders & raising awareness
- Changing driver/rider behaviour.

The system consists of:

- A smart antenna which easily mounts on a roadside pole or other fixture
- A remote digital display billboard or sign that displays a warning message to drivers via radio frequency transmission
- Smart vehicle detection technology still/video cameras that take instant images/footage of the offending vehicle for enforcement/penalty purposes.



## Advantages of noise radar include:

### Detection

Identifies & localises the noise source

### Certification

Class 1 (IEC 61672) certified sensor with correction factors that validate measurements according to external parameters

### Authentication

Authenticates noisy vehicles via licence plate reading => Fusion of 2 cameras

### Merges

Edge server => Merges the multi-physical data

### Secure transmission

Transmit data securely to relevant authorities

### Casing

Integrates camera, power management and is vandalism-proo





# Acoustic Threat Detection (ATD)



Acoem Acoustic Threat Detection is your first line of defence when it comes to mitigating risk and managing security challenges in urban areas, public venues and sensitive locations like government buildings and




educational institutions. The ATD system detects disturbances, localises them, raises an alarm and communicates with security cameras, automatically directing them to the precise location of the threat.

## Benefits of ATD include:


- Detects & locates threats immediately
- Monitors activity & receive rapid alerts
- Tracks information in real time via your existing access control centre
- Protects anytime, anywhere
- Alerts your team to threats with real-time data so you can make quick and informed response decisions
- User-friendly interface
- Processes & transmits your module data to a command centre or individual enabled devices as required in real time
- Integrates sight & sound
- Optional cameras for improved direct area perception or link with existing still or video cameras to seamlessly integrate with observation technology.

## WHY CHOOSE ATD?

### WORK, RELAX, LIVE, AND LEARN WORRY-FREE

-  **Peace of Mind**  
100% accuracy around the clock
-  **Accessibility**  
Affordable & versatile
-  **Smarter Security**  
View the threat with paired camera for evidence recovery.

-  **Reliability**  
Transparent data & real time alerts

-  **Speed**  
Detects & locate gunshots for enhanced pre-escalation control



# AeroVision

Acoem AeroVision is an aircraft environmental parameter (noise, vibration, air quality etc.) and flight tracking management system that is successfully deployed in airports around the world. It provides all the tools you need to monitor, analyse and communicate environmental impact to relevant authorities, airport workforces or impacted communities.

## Why choose AeroVision?

- Used in major airports around the world
- Advanced & responsible
- Powerful & reliable
- Flexible & adaptive
- Easy to install
- Intuitive to use.



# Smart structural vibration monitoring

The field of building acoustics is governed by a complex set of measurement and calculation standards for assessing the acoustic performance of buildings.

The Acoem Smart Building Acoustics solution lets building acoustics technicians enhance their productivity in the field and in the office. The solution comprises an embedded module in a sound level meter (Fusion™ or Duo™), dBInside software run on a PC, a sound source and a tapping machine (LS01, LS02, TM01, etc.).

Each component of the solution is designed to eliminate superfluous actions, avoid errors and optimise work through smart organisation of measurements, automatic identification of each measurement, on-the-fly calculation of standardized indicators when the measurements are imported into

dBInside is a one-click automatic report in Microsoft® Excel and all-in-one noise sources for easier transportation and use. The Acoem Smart Building Acoustics solution will boost your efficiency in the field, optimising resources and reducing costs.

## Acoem Smart Building Acoustics solution applications:

- Protection of buildings
- Demolition sites
- Construction sites
- Tunnels & underground railways
- Pile driving & compacting
- Rail traffic
- Road traffic
- Sensitive equipment
- Monitoring of structures
- Industrial vibrations
- Blasting monitoring.



Reverberation time



Facade insulation



Impact noise level



Equipment noise



Insulation from airborne noise



## About Acoem

Creating environments of possibility

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, 8 manufacturing facilities and 5 R&D centres in 11 countries – to provide trusted, holistic data solutions for customers worldwide.

Acoem links possibilities with protection.

For more information, please visit [acoem.com](https://acoem.com)

