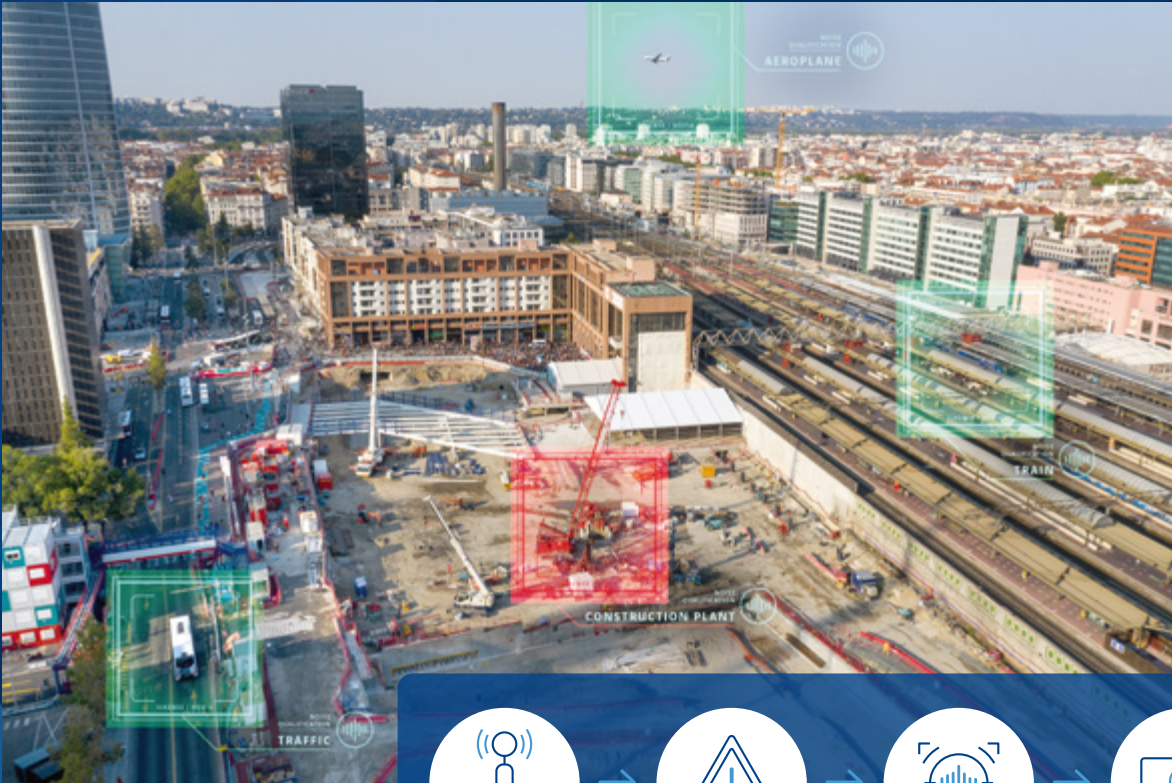
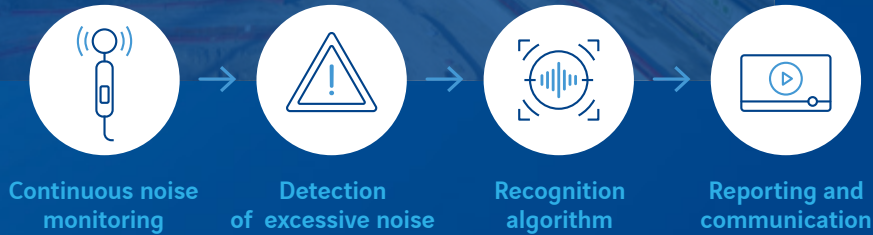


# ARTIFICIAL INTELLIGENCE THE HEART OF NORA

Machine learning technology allows Nora to automatically recognise sounds coming from the site or the surrounding area and process them in real time into twenty predefined or customised categories.



How Nora works



## NORA KEY FEATURES

- + A single database of sound samples**

The Nora database is being populated using noise monitoring data collected on multiple international projects and is continually updated with new samples. Nora currently contains more than 30,000 labelled samples.
- + Easy-to-use data**

A user friendly online interface, «Geoscope», that allows you to dynamically filter noise events generated by the site activities and play back the corresponding audio recordings.
- + Flexibility and adaptability**

Nora can be used with most noise monitoring systems and can be activated, as and when required, to manage specific periods of site activities.

## Your challenges are unique, so are our solutions

At Sixense, we support our clients throughout the life cycle of their sites and infrastructure, during the design, construction, operations and dismantling phases.

Our activities are organised around 4 areas of expertise:



### ENGINEERING

Specialised engineering to secure and optimise your operations



### MONITORING

Instrumentation and monitoring solutions for soil, structures and the environment



### DIGITAL

Business digital solutions to enhance infrastructure and their life cycle



### MAPPING

Solutions for digitising the existing: acquisition and 3D reconstruction



Transforming your infrastructure into living assets



sixense-group.com



## Nora

Machine listening  
for enhanced  
acoustic monitoring

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# SMART NOISE MONITORING

## CONTROLLING NOISE, DETECTING IMPACTS & IDENTIFYING SOURCE OF THE PROBLEM

As demand to improve the quality of life in urban areas continues to rise, projects are subject to increasingly restrictive constraints, and noise pollution is becoming a major focus.

Existing noise monitoring solutions trigger alerts only when thresholds are exceeded, but make no distinction between noise events produced on your site and those coming from the surrounding area: the only option is to manually listen to audio recordings or view images and videos recorded at the time of the event. A time-consuming process!

Nora listens to and automatically recognises noise events 24/7, allowing you to identify the cause of noise level breaches, to manage your noise level and to detect problems.

### The benefits of Nora are:



#### A clear indication of your compliance in real time

The information provided by Nora is immediately beneficial to project management: “is the excessive noise coming from my site activity or not?”.



#### Fully automated sound recognition

You no longer have to investigate the origins of noise level breaches, because Nora does it for you.

It allows you to focus on specific exceedances, react quickly and identify where maintenance or interventions are required



#### Greater transparency and accuracy

Towards all stakeholders (local residents, project owners and local authorities).



#### Eole project, Paris

Control of noise pollution from nearby construction works from within the basement of an occupied building. Automated detection and categorisation of construction noise transmitted into the neighbouring property. Checking and demonstrating compliance with the requirements governing the silencing of machinery reversing alarms.



#### Louvre Saint Honoré, Paris

Control and monitoring of work in progress on multiple floors of the building. Differentiating between alarms triggered by worksite activity (groundborne noise) and those triggered by office activities. Automated deactivation of audio replay for voice conversations.



#### Roland-Garros stadium

Noise monitoring of the stadium redevelopment works as part of facilitating communication with stakeholders and justifying the option of night-time working.



#### Quay Street, Auckland, New Zealand

Automated differentiation between noise from quayside strengthening works and noise generated by road and sea traffic. Implementation of proactive management for events where thresholds are exceeded.



#### Boralex Wind Farm

Detection and analysis of specific noise events caused by the braking systems of wind turbines.



#### Noise compliance check

Measurements with automated sound recognition in the vicinity of an industrial facility in response to complaints from local residents.

Visit our website for more information on previous and current projects

[www.sixense-group.com](http://www.sixense-group.com)

