NoisePlatform

DATASHEET

D_SW101_v0002_20180312_EN

On-line noise monitoring platform

PRESENTATION

NoisePlatform is an on-line platform that displays and dynamically analyses, in real time, the noise measured by a network of sensors that can monitor the entire area affected by noise-generating activities such as heavy traffic, railways, airports, cities (Smart Cities), industrial facilities, leisure areas or quiet areas such as natural parks and beaches.

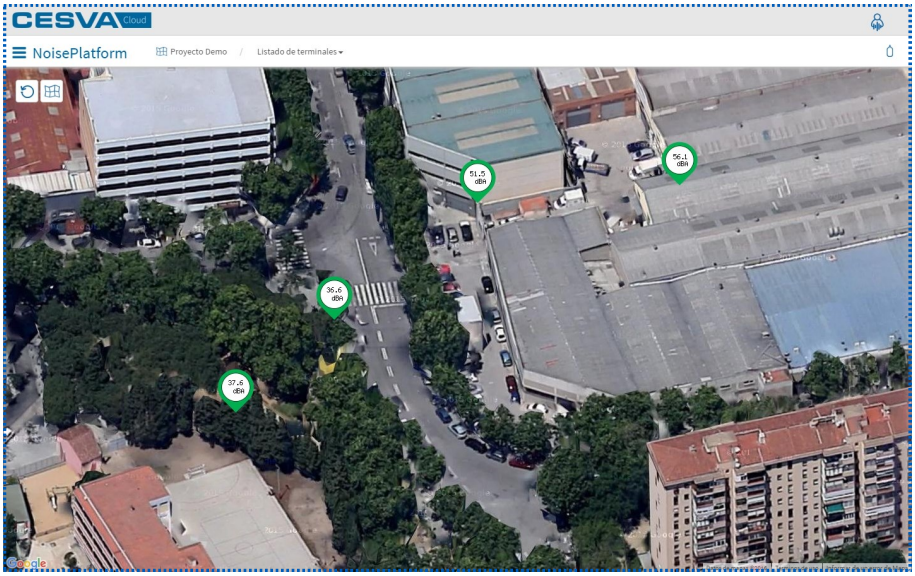
NoisePlatform was conceived to respond to the new challenges posed to the Public Administrations by the growing demand for environmental quality among the population. Current noise monitoring projects are insufficient for cities, which are increasingly smarter and more efficient, which must go beyond the simple sporadic measurement of noise levels.

Practical, dynamic and economically sustainable solutions are called for to measure, analyse and control noise pollution and to ensure that the noise does not affect peoples' quality of life and well-being.

NoisePlatform heralds a major advance over traditional monitoring, in which the cost of purchase or rental and installation of terminals limits the project's scope in terms of space and time. *NoisePlatform* makes it possible to cover the area to be monitored with the right number of *TA120* (class 1) sensors. The use of sensors makes it possible to increase the number of control points and reduce the economic cost of maintenance and verifications.

CHARACTERISTICS

- A step forward in noise monitoring to fight sound pollution by covering a broader area and time period with multiple sensors.
- Economically sustainable. *NoisePlatform* offers low sensor, maintenance and platform usage costs.
- High-precision data measurement, utterly reliable transmission of information and totally secure data storage.
- *NoisePlatform* delivers access, display, analysis, downloads and reports 100%-on-line without the need for any software, thus guaranteeing permanent availability.



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APPLICATIONS

On-line noise monitoring platform

PRESENTATION (cont.)

Once the sensors have been installed, *NoisePlatform* receives the information instantly and stores it on the platform. The data measured by the sensors can thus be viewed in different formats to accommodate the needs of each user.

Moreover, it features multiple tools that facilitate the evaluation of information (levels on map, graphics, tables, calculations, weekly and monthly calendars) and the generation of on-line reports. It can even compare periods or sensors, thus simplifying user decision -making enormously.

NoisePlatform also sends a warning email when the permitted noise level is about to be surpassed.

In this way, all the stakeholders are involved in the project (ownership, consultants, contractors, authorities and the affected population) through the different user profiles and the project's public website that makes it possible to share information and demonstrate commitment and compliance with the standards and regulations.

NoisePlatform is the easiest and most economical solution, whether for noise consulting projects lasting for a few days or weeks or for permanent smart city projects.

APPLICATIONS

CITIES (Smart Cities):

Local administrations are increasingly more committed to the control noise. For this purpose, strategic noise maps are produced and action plans are implemented.

NoisePlatform facilitates the deployment of a network of sensors in the areas studied in order to collect and store real-time noise level data.

The continuous generation of reliable data for monitoring action plans enables the rapid assessment of these plans' effectiveness and the taking of decisions regarding their continuance, thus saving time and economic resources.

- *Selective waste collection services control*
- *Noise control in hospitals: arrival of ambulances or medical helicopters*
- *Inspection of the construction of urban infrastructure: underground, sewerage systems, etc.*
- *Verification of the timetable and proper use of leisure areas for dogs*
- *Evaluation of loading and unloading activities*

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APPLICATIONS

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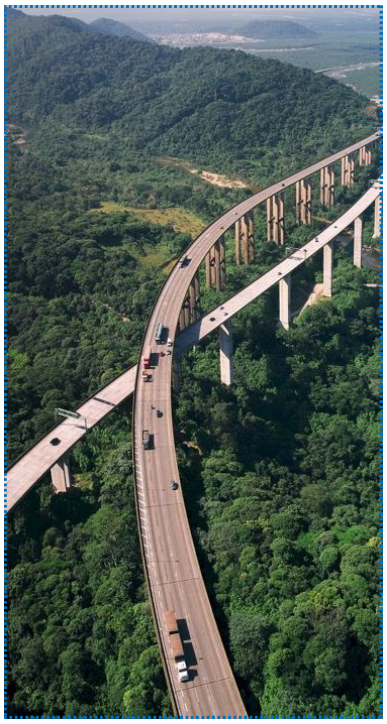
ENVIRONMENTAL:



The supralocal administrations manage environmental noise by means of action plans to reduce or prevent noise pollution in road, railway, airport or seaport infrastructures, and to safeguard noise quality in designated quiet areas.

NoisePlatform performs the most monotonous jobs: recalculation of time bases, Day/Evening/Night mean calculations, incident analysis, comparison with the regulatory limits.

It can also quickly assess the effectiveness of action plans applied, saving time and economic resources.

- *Road, airport and seaport infrastructure (sports, commercial, energy and passenger)*
- *Wind farms*
- *Control of noise-protected designated quiet areas: Parks, gardens, beaches*
- *Excessively noisy areas*
- *Activity environmental impact assessment*

BUILDING:

Construction, refurbishing or demolition work on buildings is a part of modern and dynamic cities, but it also greatly contributes to increasing environmental noise pollution.

NoisePlatform continuously receives noise levels from different points on the site and makes it possible to check and substantiate that the maximum levels permitted have not been surpassed. It also verifies fulfilment of operation timetables.

In this way, on-site workers and the noise quality of the immediate environment are both protected.

- *Control of demolition, remodelling and refurbishing work*
- *Citizen Information Offices*
- *Extra points in tender awards for noise pollution control*
- *Monitoring of urgent work*
- *Control and follow-up of new work*

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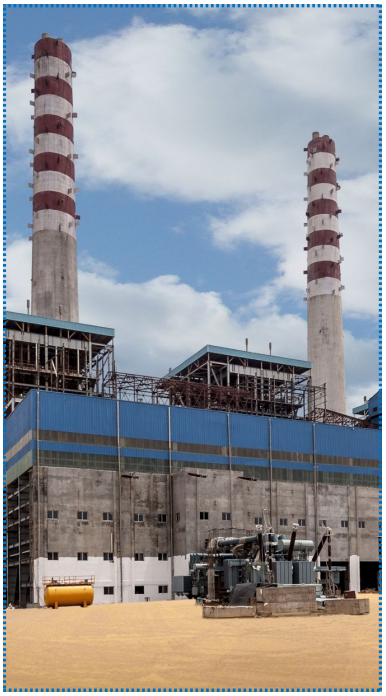
INDUSTRIAL NOISE:



The main inconvenience of industrial noise normally lies in the presence of highly time-specific and quantitatively parameterised fixed noises, compounded by intermittent noises which often lead to offences for being over the limits and which sporadic or one-off measurements cannot assess.

NoisePlatform's continuous monitoring function can detect noises from intermittent sources or focal points by the actual industrial activity or due to elements in bad condition. And its warning system permits immediate action.

It also helps to identify noise problems before they occur, avoiding shutdowns and project delays, fines and penalties or costly legal action.

- *Chemical plants*
- *Power generation or transformation stations*
- *Transport fleet control in distribution centres*
- *Mining (mines and quarries), gas and petrol extraction activities*
- *The correction of ventilation systems, smokestacks or outdoor machinery*

LEISURE ACTIVITIES:

Most leisure activities involve high levels of noise, which may be due to loud music or the levels generated by the actual activity.

NoisePlatform also controls as many points as necessary (public and workers' areas and nearby housing) and presents information in level-versus-limit graphic format, thus facilitating assessment to ensure compliance with the applicable regulations.

Moreover, it has an alarm system so that corrective action can be taken before excessive noise levels are actually surpassed.

It therefore improves and maximises the activity's noise level without disturbing or jeopardising the community.

- *Concerts*
- *Race tracks and sports activities*
- *Information about the maximum level generated in stadiums*
- *Fun fairs, Shows and Exhibitions*

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MAIN CHARACTERISTICS

On-line noise monitoring platform

A STEP FORWARD:

NoisePlatform heralds a step forward in noise monitoring.

Hitherto, monitoring projects were usually implemented with a single terminal that was transported to different sites due to its high cost. This meant that the information available was not simultaneous and the terminal installation costs were higher.

NoisePlatform works with a network of sensors that does away with all these obstacles to deliver continuous and multi-point noise monitoring. Moreover, it opens up the possibility of performing mandatory monitoring and control of any permanent (a company's perimeter area) or temporary (a concert) noise activity, which was more difficult in the past due to the cost or number of terminals.

AFFORDABLE AND SUSTAINABLE:

Due to the considerable price difference between the market terminals and the TA120 sensors, users can now afford to purchase the sensors for themselves.

Moreover, the combination of their unbeatable cost and minimum maintenance enables users to deploy as many sensors as needed to cover the area to be monitored.

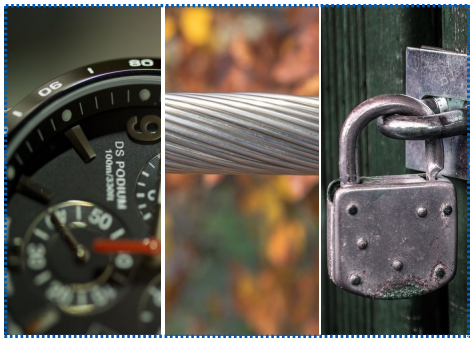
These features are complemented by the platform's low total cost of use, making it the most comprehensive and accessible system on the market for dealing with and managing noise pollution.

PRECISE, RELIABLE AND SECURE

The system uses sensors with class 1 measuring precision.

Another important and outstanding feature is its high data transmission reliability, allowing users to take decisions confidently because the information received is always accurate.

Finally, it should be mentioned that it is a totally secure system, since it works with a replicated database architecture method and the data are backed up daily. It uses a secure server certified with 256-bit SSL encryption.



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MAIN CHARACTERISTICS

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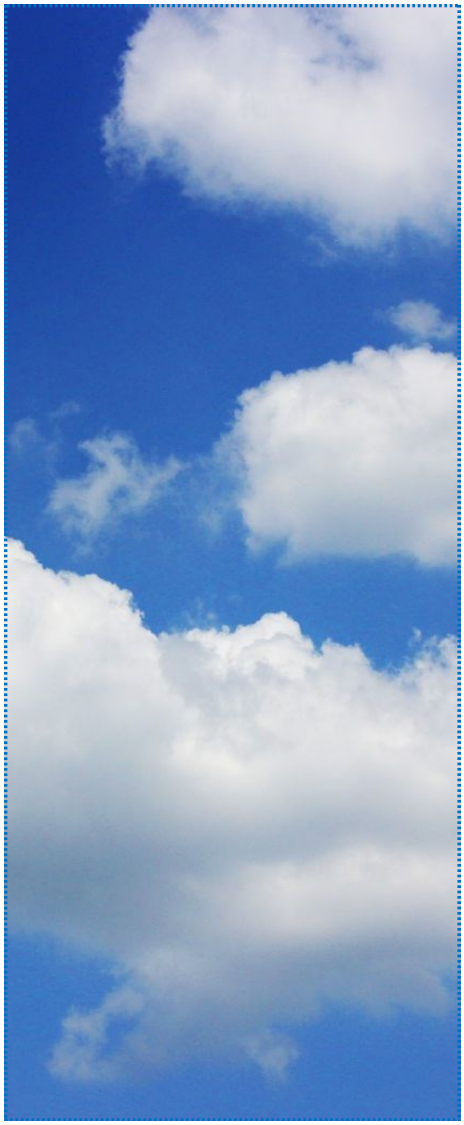
100% ON-LINE:



ACCESS

NoisePlatform does not require the installation of software since the entire service is cloud-based (IoT).

Access is via a web browser (Explorer, Edge, Chrome, Firefox, Safari) from a tablet, laptop or desktop computer. This means that information is available from anywhere, 24 hours a day, seven days a week.

The number of projects is unlimited and as many sensors as necessary can be assigned to each project. Its multi-project structure delivers direct access to the corresponding sensors.

Moreover, user access is password-controlled.

DISPLAY

NoisePlatform can display project information in real-time. This offers the user the advantage of being able to take decisions and apply immediate solutions.

The information is presented in different graphic and numerical forms, with the option to select the period to be shown and different pre-defined formats in order to expedite on-screen data display.

ANALYSIS

NoisePlatform offers the user multiple tools to facilitate data analysis.

It automatically performs the most tedious calculations, such as changing the time base or the recalculation of sections by time periods (L_D,L_E,L_N, L_{DEN}).

Moreover, it makes it possible to compare levels between different time periods or different sensors on the basis of which the user will take the relevant decisions.

NoisePlatform has an alarm option to warn the user before a noise limit is exceeded.

DOWNLOAD / REPORTS

NoisePlatform allows users to download the required interval in multiple formats (PDF, XLS, CSV) and different time bases. They can also download the report that is automatically created from the assessment.

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SCREENS

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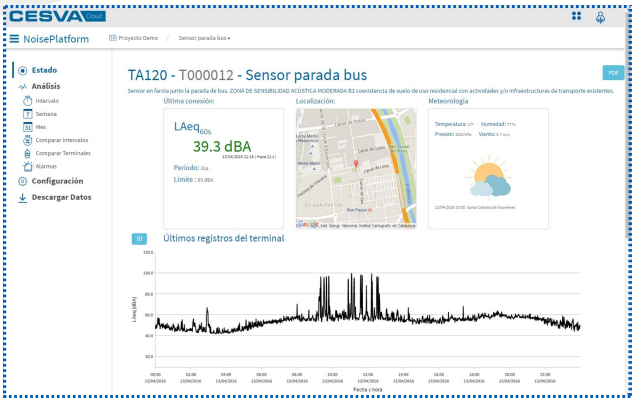
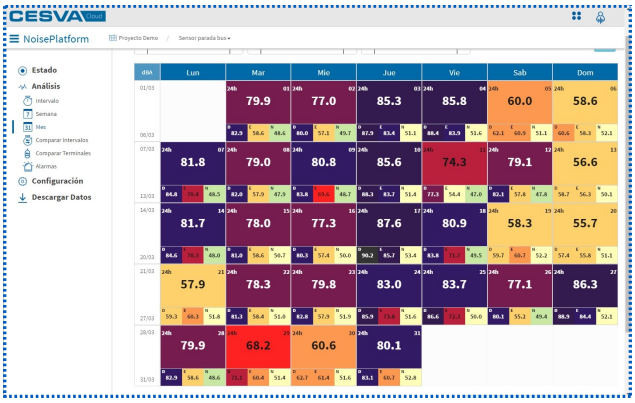
INFORMATION DISPLAY

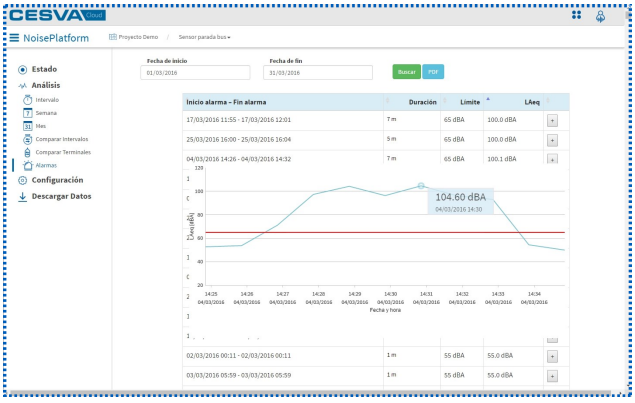


Noise level, connection status and power supply. And additional integrated data services on the sensor

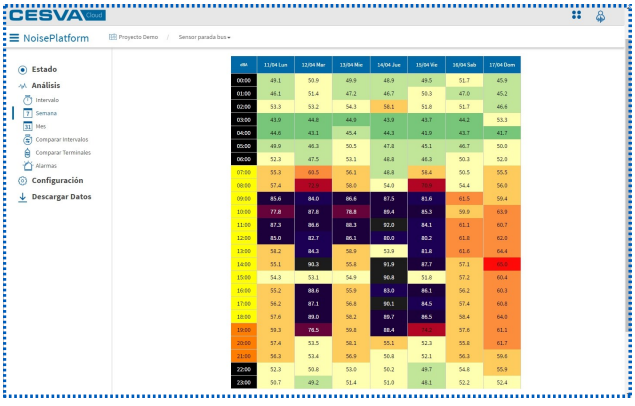


Monthly calendar with DEN and daily averages (24 h) and colour scale

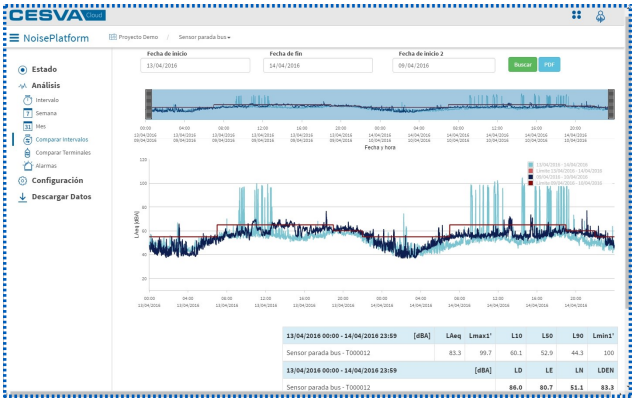
Graphic representation of noise over time and LD, LE and LN calculations of the selected period



Representation of periods with alarms (over the limit)



Weekly calendar with hourly averages and colour scale



Comparison of a sensor's intervals

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SENSORS

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TA120 SENSOR:

Monitoring sensor for sound level based on a continuous measurement (24h).

The TA120 is characterized by its class 1 measurement accuracy (IEC 61672). It has outdoor kit protection + IP65.

Thanks to its light weight and structure allows easy installation

The sensor is compatible with both Noiseplatform as other open source platforms.

CHARACTERISTICS

Communication

- *Ethernet (RJ45)*
- *Wi-Fi*
- *3G Modem*
- *4-20mA Loop*

POWER

- *Mains*
- *POE (Power over Ethernet)*
- *12 VDC (Solar panel)*

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TECHNICAL SPECIFICATIONS

On-line noise monitoring platform

REAL-TIME PANEL

- Map with geolocation of the sensors
- Sound pressure level in dBA
- Colour indicators (red/amber/green) for when the configured limit is about to be or has been exceeded

SENSOR STATUS

- Battery level indicator
- Communication type and coverage indicator
- Date of the last connection (time elapsed since the last connection)
- Latest noise levels measured
- Additional data services, such as weather information from the closest point

DISPLAY, CALCULATIONS AND ANALYSES

- Graphics of sound level over time
- Numerical tables for the selected interval
- Numerical tables with indication of exceeded limit and level by colour scale
- Weekly calendars with hourly sound levels
- Monthly calendars with DEN and daily sound levels
- Calculation of averages by time period and statistics (maximum, minimum and percentile)
- Calculation of LD, LE, LN, LDEN parameters

COMPARISON

- Comparative graphics and tables of sound levels between different periods for one sensor
- Comparative graphics and tables of sound levels between different sensor for the same period

WARNINGS

- Warning email when permitted noise level is about to be surpassed
- With NoisePlatform, the proximity noise level and the time this level can be surpassed before receiving a warning are configurable

REPORTS

- Automatic generation of reports with all the available information (pdf format)

  Sensor status, graphics, tables, calculations, calendars, etc.

DATA EXPORT AND DOWNLOAD

- Directly from the platform
- Of the time period selected
- Formats (CSV, XLS)
- Time bases of 1 minute, 1 hour or time-configurable in minutes

SECURITY AND ACCESSIBILITY

- Replicated database architecture with daily data back-up
- Secure server certified with 256-bit SSL encryption

USERS

- Password-controlled multi-user environment

Characteristics and technical specifications may be changed without prior notice

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