



ENVIRONMENTAL MONITORING FOR URBAN CONSTRUCTION AND INFRASTRUCTURE

Noise, Vibration, and Dust (NVD) monitoring is the systematic observation and measurement of noise levels, vibration intensities, and dust concentrations in various environments, particularly in workplaces and areas affected by industrial or construction activities. The primary goal of NVD monitoring is to assess and mitigate the adverse effects of these factors on human health, safety, and the environment.

Urban construction activities generate significant environmental impacts, including noise, vibration, and dust. These factors influence human comfort, structural integrity, and air quality. Effective monitoring is crucial for meeting regulatory requirements, ensuring health and safety, and maintaining public confidence.

APPLICATIONS AND BENEFITS

Urban construction, mining and quarries, ports, and tunnelling all require NVD monitoring to ensure compliance, reduce health and safety risks, and improve community trust. Monitoring before, during, and after projects helps manage risks and avoid potentially costly disputes.

Regulatory compliance reduces health concerns, increases project acceptance, and minimizes financial risks by helping to prevent work stoppages.

MONITORING TYPES

Noise

Noise monitoring measures sound levels to identify potential hearing hazards and ensure compliance with regulations. Key metrics include A-weighted equivalent level (LAeq), L10, and L90, as specified in the IEC 61672 Class 1 and ANSI S1.4 standards. Devices: [Sonitus Systems' EM2030 Sound Level Monitor](#).

Vibration

Vibration monitoring assesses vibration levels to prevent structural damage and protect communities from vibration-induced health issues and human comfort. Standards: DIN 4150-3 is widely used. Devices: [Syscom Instruments' ROCK](#) (autonomous, solar-powered) and [MR3003](#) product line.

Dust

Dust monitoring focuses on airborne particles (PM2.5, PM10, and respirable PM4) to prevent respiratory diseases. Devices: [DM30 Dustsens](#) and [DM30N Sitesens](#) with MCERTS approval.

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We deliver a trustworthy and affordable solution that addresses 90% of common challenges on construction sites related to noise, vibration, and dust regulations.”

Barth Jacquot
Brand Sales Director
Syscom Instruments

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INTEGRATED SOLUTIONS

Syscom Instruments partners with Sonitus Systems to provide integrated NVD monitoring solutions within the SCS software platform. Data is centralized via SCS (Syscom Cloud), offering:

- Single platform for all measurements
- Automated data collection, notifications and reporting
- Cloud-based management for multiple projects
- API integration for seamless interoperability.

CONCLUSION

Integrated NVD monitoring is vital for sustainable urban development. Combining advanced instrumentation with cloud platforms ensures compliance, safety, and operational efficiency.



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Proactive NVD monitoring isn't just about compliance, it's about safeguarding communities and ensuring projects run smoothly without unexpected setbacks.”

Will Averdieck
Business Development
Executive, Sonitus Systems

“

Investing in reliable monitoring today prevents costly disputes tomorrow, protecting both structural integrity and stakeholder trust.”

Paul McDonald
Managing Director
Sonitus Systems

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