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# Environmental Monitoring Systems

### Why Implement an Environmental Monitoring System?

Deploying an **environmental monitoring system** brings significant advantages for companies seeking data-driven environmental insights and regulatory compliance. These intelligent systems provide real-time monitoring across multiple environmental parameters, enabling organizations to anticipate and mitigate environmental risks before they escalate.

- **Early detection and prevention:** By identifying environmental anomalies at an early stage, companies can take preventive action and reduce the risk of harmful exposure to humans or ecosystems.
- **Cost efficiency:** Proactive monitoring helps lower long-term operational costs by minimizing environmental remediation expenses and damage control.
- **Compliance with ISO standards:** Environmental monitoring supports alignment with environmental regulations, including ISO-certified environmental control frameworks.
- **Corporate reputation and ESG trust:** Demonstrating environmental responsibility through transparent data logging enhances public trust and brand value, aligning with sustainability commitments.
- **Operational improvements:** Real-time environmental data enables companies to detect inefficiencies and implement improvements in air quality monitoring systems, emissions control, and water quality tracking.

THE Applus+ SOLUTION

## Comprehensive Environmental Monitoring Solutions by Applus+

At Applus+, we provide comprehensive **environmental monitoring solutions**—from system supply and installation to commissioning and maintenance—designed to capture critical environmental parameters in real-time. Our intelligent systems combine smart sensing technologies, cloud connectivity, and **environmental data logging systems** to support data-driven decision-making and compliance across industries.

- **Continuous Emissions Monitoring:** Our systems ensure real-time measurement of pollutant concentrations from industrial activities, including particles, nitrogen dioxide, sulfur dioxide, carbon monoxide, hydrofluoric acid, hydrochloric acid, ammonia, and total organic compounds. They also track non-polluting elements such as steam and oxygen.
- Air quality control: Our **air quality monitoring systems** track ambient concentrations of nitrogen dioxide, ozone, sulphur dioxide, ammonia, volatile organic compounds, mercury, and other key substances to assess the environmental impact in industrial and urban environments.
- **Acoustic pollution:** These systems evaluate noise levels and vibrations caused by industrial operations or infrastructure projects, enabling the mitigation of ambient noise and pollution.
- **Water quality:** These systems also monitor water pH, turbidity, conductivity, temperature, dissolved oxygen, and the presence of specific contaminants.
- **Weather conditions:** Integrated weather monitoring encompasses wind speed, wind direction, temperature, humidity, and rainfall, enabling organizations to correlate environmental data with climate conditions.

With over 20 years of experience in **industrial environmental monitoring**, Applus+ serves a range of sectors, including oil and gas, power, agriculture, mining, and aerospace, as well as public agencies and environmental authorities. We integrate multi-parameter environmental sensors into tailored architectures that are adapted to each client's specific location, project scope, and budget.

We developed the AmbiensQ Suite, a flexible, cloud-based platform that enables real-time collection, visualization, and analysis of environmental data across any device. This tool supports **automated environmental reporting**, task scheduling, and data-based decision-making in compliance with regulatory requirements.

Our systems utilize **AI-powered data analytics** to identify trends, automate alerts, and optimize environmental operations.

Applus+ holds internationally recognized accreditations, including:
ISO 17025:2017, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, and NORSOK-S-006.

## Target customers

# Who Needs an Environmental Monitoring System?

- **Environmental monitoring systems** are crucial in industries and sectors where assessing and mitigating environmental impacts is essential. Applus+ delivers customized, scalable solutions for a wide range of applications:
- **Construction and dismantling projects:** Real-time monitoring helps minimize the environmental impact of infrastructure works, detecting air, water, and acoustic disruptions from the earliest phases.

- **Industrial activities:** In manufacturing, mining, oil and gas, and other heavy industries, environmental monitoring systems enable real-time compliance with emissions and air quality standards, while also tracking the impacts on biodiversity and water quality.
- **Urban environments:** Cities benefit from smart environmental monitoring to control ambient noise, detect air pollutants, and monitor water contamination, enhancing public health and urban planning.
- **Natural reserves and protected areas:** Our systems support conservation efforts by tracking weather conditions, biodiversity changes, and water quality in national parks and sensitive ecosystems.

Applus+ technology and innovation systems in the environmental sector are designed to evolve with each project, integrating new measurement parameters and advanced communication systems to deliver long-term value and actionable environmental insights.

## Key customer benefits

# Key Benefits of Environmental Monitoring Systems

Implementing an advanced **environmental monitoring system** provides strategic value for organizations committed to sustainability, operational efficiency, and compliance. Key benefits include:

- **Risk prevention and real-time insights:** Continuous monitoring helps identify environmental issues, such as emissions, radiation, or water contamination, before they escalate, enabling proactive intervention.
- **Cost savings:** Early detection of anomalies reduces costs associated with fines, remediation, equipment damage, and operational downtime.
- **Regulatory assurance:** Applus+ systems are designed to align with international certifications, simplifying audits and compliance processes.
- **Enhanced brand reputation:** Demonstrating a commitment to environmental responsibility improves stakeholder trust and ESG ratings.
- **Process optimization:** Real-time data from environmental monitoring enables more informed planning, efficient resource utilization, and effective energy management, ultimately leading to more sustainable operations.