VAISALA

Air Quality Solutions for Ports

CONTINUOUS MONITORING AND PREDICTION ARE THE FIRST STEPS TO MANAGE EMISSIONS

Air Quality is the #1 Environmental Priority for European Ports

Emissions from vessels, port operations, and related land traffic present a serious environmental health issue in major ports. According to a report by the Centre for Energy, Environment and Health*, international maritime traffic is the cause of more than 50 000 premature deaths every year in Europe alone.

The good news is that ports are taking this issue seriously. In a recent survey based on data from 91 European ports, air quality was found to be the number one environmental priority, with a similar trend seen in ports globally.

Do You Know the Air Quality in Your Port?

Ports have many exceptional characteristics in terms of air quality. Many port operations generate emissions, but ports are also often surrounded by other significant emission sources such as industrial facilities or busy roads. Furthermore, 90% of ports in Europe are close to densely populated urban areas. Often the true origin of polluted air is hard to identify, especially with varying weather conditions affecting the dispersal of pollutants.

Understanding Begins With Monitoring

Implementing an air quality monitoring network in the port zone provides real-time situational awareness of pollution levels, enabling port authorities to take timely measures based on hard data to improve air quality in and around the port.

Benefits of Real-Time Air Quality Monitoring

- Minimize exposure to pollutants and potential adverse health effects
- Support environmental compliance and reporting
- Verify effectiveness of pollution-control measures
- Proactively mitigate pollution incidents
- More accurate understanding of origins of polluted air

** Assessment of Health-Cost Externalities of Air Pollution at the National Level using the EVA Model System, in Centre for Energy, Environment and Health Report series, CEEH Scientific Report No 3, ISSN 1904-7495.*

Vaisala Air Quality Solution for Ports

Vaisala Air Quality solution for ports consists of a network of compact air quality sensors and weather stations, complete with data acquisition and visualization software, as well as optional air quality dispersion modeling.

Air Quality Transmitter AQT400 Series

AQT400 Series is a cost-effective range of air quality instruments for measuring the most common gaseous pollutants (NO_2, SO_2, CO, and O_3) as well as particulate matter ($PM_{2.5}$ and PM_{10}). AQT400 Series sensors have been evaluated by the prestigious AQ-SPEC test facility in the US.

Weather Transmitter WXT530 Series

WXT530 Series can measure six of the most important weather parameters: air pressure, temperature, humidity, rainfall, and wind speed and direction.

Observation Network Manager NM10

NM10 is an automated network management system that enables easy monitoring and control of sensors and provides easy access to observation data. Comprehensive data collected from the sensor network enables detailed reporting and analysis of environmental conditions in the port zone.

Dispersion models, provided through our partners, can further improve situational awareness of air quality in ports. The models provide a better understanding of emission sources as well as the spread of pollutants in the port zone and surrounding areas, for example in the case of an accidental release of emissions.

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