Effectively Addressing Community Concerns through Data Transparency and Open Communication

Authors

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Abstract

An industrial precinct in Ipswich, Queensland, hosts multiple waste and industrial facilities located close to growing residential communities. Over time, odour emissions led to community dissatisfaction and numerous complaints. The regional regulator established a task force to determine whether operators were complying with their Environmental Authorities, but the complexity of multiple industrial facilities in close proximity to each other, significantly number of potential odour sources and reliance on reactive inspections limited effectiveness.

A partnership with Envirosuite introduced a shared evidence base, built on real-time monitoring and predictive analytics. This enabled transparent communication with the community, supported rapid complaint investigation, and strengthened regulatory confidence. This paper outlines how data transparency and open communication clarified responsibilities across stakeholders, reduced response times, and shifted public sentiment from speculation to trust.

Introduction

Ipswich's New Chum and Swanbank industrial precinct is home to several large-scale waste and industrial operations, refer Figure 1. These facilities operate in close proximity to residential communities, where odour emissions have long been a source of concern. The regulator, faced with increasing complaints and community dissatisfaction, formed an odour task force to investigate impacts and investigate compliance.

Traditional odour investigation approaches are time consuming and typically rely on inspector call-outs triggered by complaints. These reactive measures often occurred after the odour event had passed, making validation of the complaint challenging and providing little opportunity for effective community engagement. With multiple facilities operating side by side, it was difficult to determine responsibility or provide timely feedback to affected residents. This reactive cycle strained relationships with both the community, regulators and industry operators.

To improve outcomes, the regulator partnered with Envirosuite to deploy environmental intelligence technology, creating a continuous and transparent evidence base to be

able to identify the source of emissions and demonstrate the ongoing effort to improve conditions.

This case study presents challenges faced widely throughout the water industry and showcases an innovative solution relevant to many water and wastewater operators.

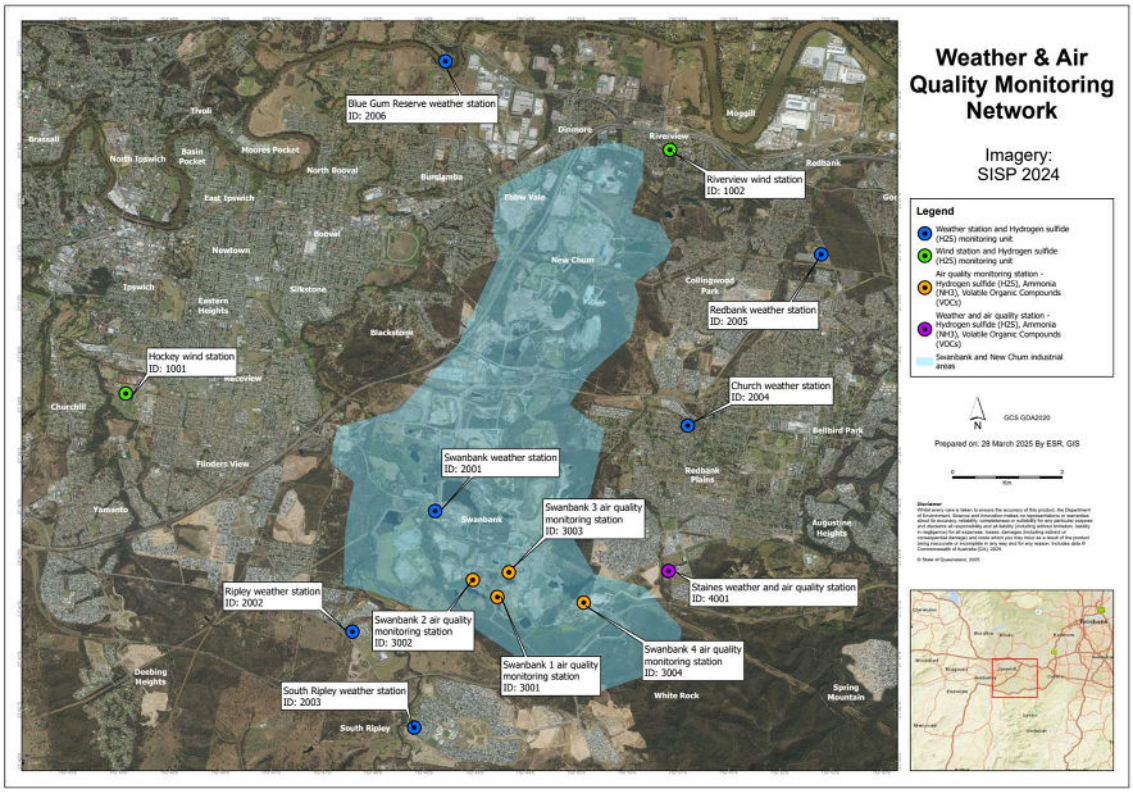

Figure 1 Swanbank precinct and monitoring locations

Discussion

Solution Overview

The solution combined a network of strategically placed air quality monitors (refer Figure 1) with Envirosuite's Omnis platform. Real-time data streams were consolidated in a cloud-based dashboard, providing a single source of truth for industry, regulators and field officers. The monitoring dashboard was made public in order to be transparent, build trust and demonstrate the regulator is actively committed to improve odour outcomes for the community (refer Figure 2).

Key objectives included:

- **Real-time awareness** of odour emissions and weather conditions across the precinct.

- **Simplified data management** through centralised collection, analysis and reporting of air monitoring data.
- **Rapid response** to emerging odour issues via configurable alerts.
- **Stakeholder engagement** through transparent sharing of data and timely communication of evidence-based investigations.

Real-time Awareness

Continuous monitoring provided inspectors with immediate visibility of odour conditions at all times. Instead of relying solely on complaints, officers could view data in real time and identify potential sources based on wind direction and concentration levels. This allowed optimisation of investigations, faster deployment of resources and greater confidence in regulatory action.

Collection of continuous monitoring data allowed review of long-term data trends and benchmarking of site performance. This enabled understanding of typical pollutant concentrations and identification of high odour events, as well as facilitated more in-depth odour complaint investigations but cross referencing quantitative monitoring data against when high odour complaints where received.

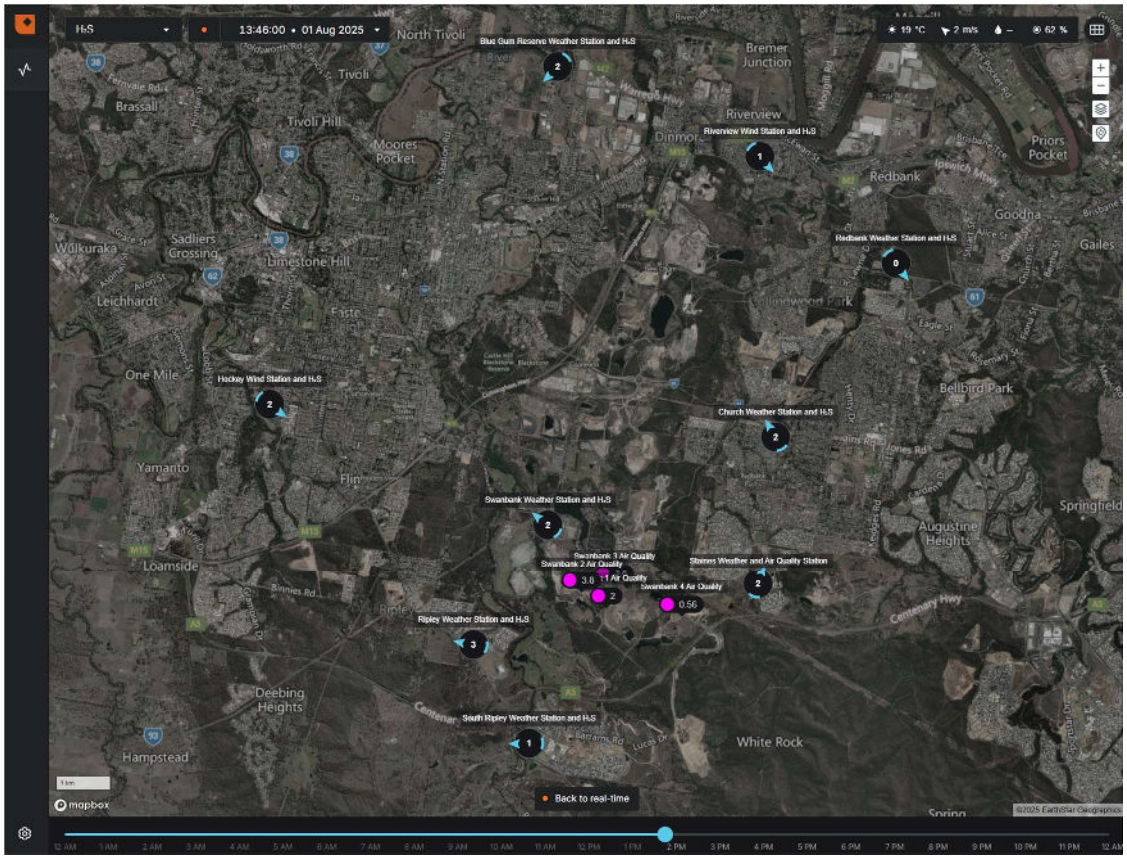

Figure 2 Omnis monitoring

Simplified Data Management

Previously, odour investigations relied on disparate complaints and manual records across multiple facilities. The Omnis platform created a centralised repository, automating analysis so that monitor data is easy to interpret and storing historical records for reference (refer Figure 3). This streamlined workflow freed officers from data handling and ensured consistent, evidence-based decision-making.

For industrial sites, such as water treatment plants, this enable quantification of odour emissions and allows site performance to be easily assessed over time.

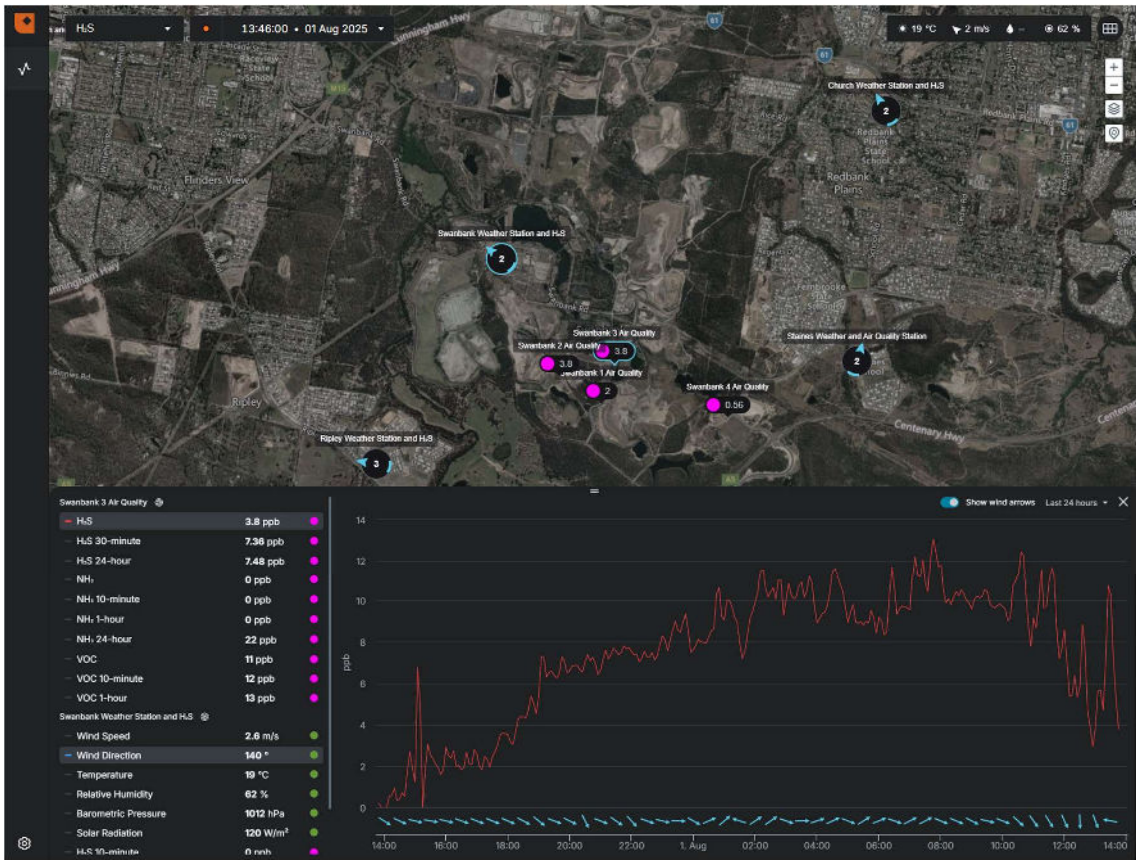

Figure 3 Omnis data review

Rapid Response

Automated alerts enabled the task force to respond as odour events unfolded, rather than after impacts had already dissipated. In many cases, officers could verify and contact operators within hours, reducing complaint resolution times and reinforcing regulatory presence in the community.

In the case of a water treatment plant, trending abnormal performance could be detected through various emissions such as H2S levels (i.e. high H2S indicating upset

plant conditions), and provide notifications to relevant stakeholders to investigate further, take preventative actions or signal that plant maintenance is required.

Additionally, the ability to record actions in response to odour incidents allowed the ability to verify the effectiveness of the response and develop an organized feedback loop of continuous improvement.

Stakeholder Engagement

The shared evidence base was critical in clarifying responsibilities among operators and rebuilding community trust. Complaint investigations were supported with objective, quantitative data, allowing transparent communication of findings. Residents received clear explanations, while operators engaged constructively with regulators using the same verified data. The live monitoring dashboard within Omnis was made accessible to the public, allowing local residents and facilities to validate their experience.

In many cases, the transition of a disenfranchised community to a happy community is a journey that takes time, effort and co-operation. However, building trust that operational facilities can operate in harmony with a community can be achieved much sooner. Open channels for constructive two-way engagement, transparency, timely responses, continuous improvement and demonstration of action are all paramount to combating the fear and uncertainty within a community (refer Figure 4).

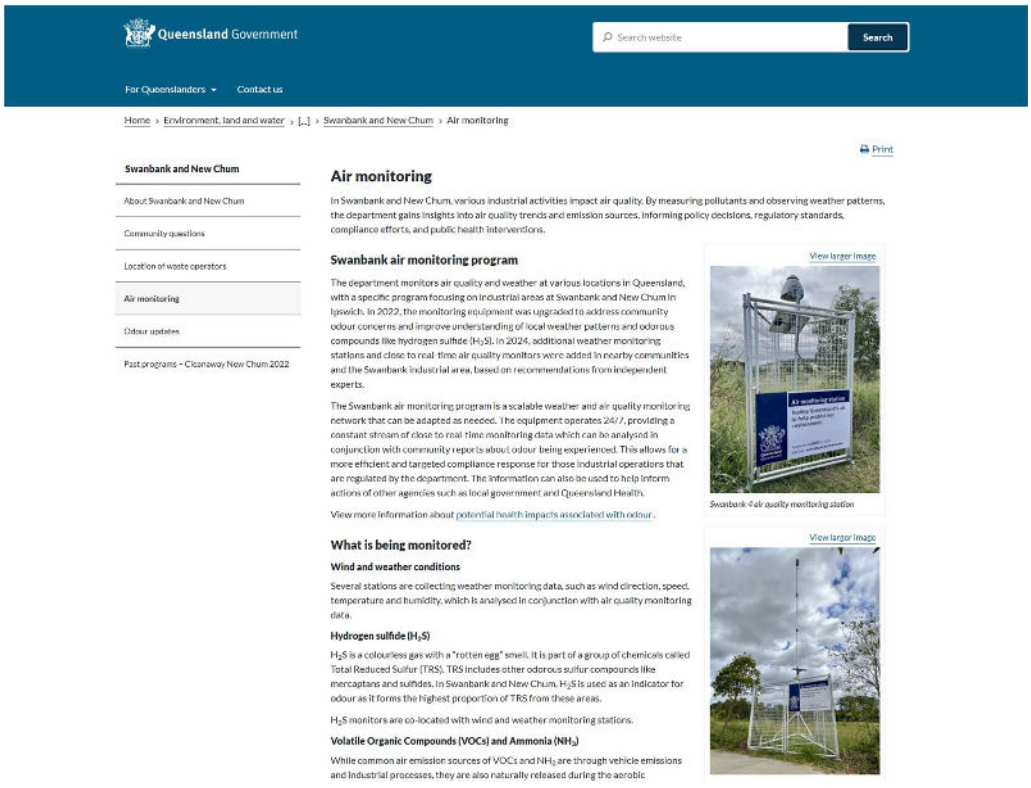

Figure 4 DETSI web page - sharing information publicly

Conclusion

The Ipswich precinct experiences many modem environmental constraints including urban encroachment and odour complaints which are commonly present at industrial site including water and wastewater treatment plants.

The Ipswich odour management initiative demonstrates how transparent data and open communication can transform regulatory outcomes. By adopting real-time monitoring and environmental intelligence, the regulator reduced response times, undertook more informed and efficient investigations, transparently shared data with the community, and ultimately continue the journey of restored public confidence.

The collaborative, science-based approach delivered benefits for all stakeholders: regulators gained efficiency and authority, operators received clear and fair feedback, and communities saw their concerns addressed with credible evidence. This case highlights the value of modern environmental intelligence tools in managing complex industrial plants where community and industry coexist.