

FRONTLINE SAFETY CASE STUDY



CARBON DIOXIDE & ETHANOL

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WHAT WAS THE HAZARD?

In the heart of Scotland, a renowned distillery faced a critical issue: the risk of gas leaks. The distillation process, integral to the production of their spirits, involves the use of several gases. Predominantly, the concerns centred around the potential leaks of flammable gases, such as ethanol vapours, and other harmful gases like carbon dioxide, which can be produced during fermentation. Any unintended release of these gases can not only threaten workers' safety but can also endanger the surrounding environment and the integrity of the product.

PROBLEM IN MORE DETAIL

The distillery's expanding operations exposed the limitations of their manual monitoring methods. The combination of aging infrastructure and increased production raised the potential for leaks of flammable ethanol vapors and harmful carbon dioxide. These gas leaks posed significant fire risks, created potential explosive atmospheres, and threatened worker health due to the dangers of oxygen displacement by carbon dioxide.

AT A GLANCE

Challenges

- Aging infrastructure increasing the risk of leaks.
- Potential formation of explosive atmospheres
- Confined spaces

Benefits

- Rapid, precise detection of gas.
- Real-time monitoring for immediate interventions, reducing potential downtime and production losses.

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WHICH SOLUTION AND WHY?

Frontline Safety proposed the GDS fixed gas detection system tailored to the distillery's needs.

We employed the "GDS XDI Transmitter", renowned for its precision and durability, in conjunction with the "GDS Combi 80" control panel, which offers a user-friendly interface and robust data analytics.

Sensors that detect ethanol vapours and carbon dioxide were integrated into the transmitter and placed near fermentation tanks and distillation columns. The GDS XDI and Combi panel allow for real-time monitoring, ensuring rapid detection of gas concentration anomalies. This comprehensive system permits immediate intervention, thus mitigating risks and ensuring worker and facility safety.